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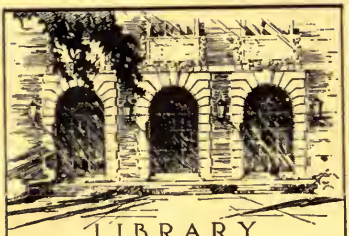

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STUDIES OF AMERICAN PLANTS—IX

BY

PAUL C. STANDLEY

CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

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STUDIES OF AMERICAN PLANTS—IX

PAUL C. STANDLEY

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During the past few years the writer has had occasion to determine many collections of tropical American plants, in some of which were found the apparently new plants described upon the following pages. The majority of the new species here described are from the rich collections made in the Chiriquí region of Panama by Mrs. M. E. Davidson; from the large series obtained in Sonora and Chihuahua by Mr. Howard Scott Gentry; from the Mexican plants obtained by collectors from the University of Texas, particularly Mr. Harde LeSueur; and from various series forwarded by Dr. C. L. Lundell of the University Museums of the University of Michigan. Most of these collections contain numerous additional new species whose descriptions have not yet been prepared.

The writer is under special obligations to Dr. William Trelease, who supplied descriptions of the new Piperaceae, and to Dr. Robert E. Woodson, Jr., who furnished the diagnosis of a new species of *Zschokkea* discovered the past season in Guatemala.

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ARACEAE

Anthurium clidemioides Standl., sp. nov.—Epiphytica scandens, caudiculo elongato flexuoso gracili vix ultra 2 mm. crasso viridi albo-verrucoso, internodiis elongatis; petiolus ca. 3 cm. longus viridis longe anguste vaginatus; lamina deltoideo-ovata usque 12.5 cm. longa atque prope basin 7.5 cm. lata longe angusteque attenuato-acuminata, basi breviter cordata, sinu aperto lato, lobis posticis late rotundatis, supra laete viridis ubique arcte bullata, nervis venulisque profunde impressis, subtus pallidior ubique profunde lacunosa, e basi 5-nervia, nervis 2 interioribus fere ad apicem protractis; inflorescentia sessilis, spatha pallide viridi lanceolata ca. 4 cm. longa longe anguste attenuata tenui suberecta; spadix 4.5 cm. longus supra basin 5 mm. latus, e basi ad apicem paullo angustatus. —Costa Rica: Villa Quesada, San Carlos, alt. 800 meters, March 6, 1938, *Manuel Valerio* 1726 (type in Herb. Field Mus.).

This is one of the most distinct and most remarkable of all the many species of *Anthurium* known from Central America, and I have seen no similar plant from any other region. The strongly

and closely bullate leaves, with melastomoid venation, strongly suggest those of certain Melastomaceae, particularly of the genus *Clidemia*.

Anthurium Davidsoniae Standl., sp. nov.—Ut dicitur terrestris, caudiculo elongato 6 mm. crasso, internodiis brevibus; cataphylla lineari-attenuata usque 12 cm. longa in sicco fusco-ferruginea; petioli gracillimi 12–19 mm. longi; lamina ovato-ovalis vel late ovalis 15–18 cm. longa 9.5–11 cm. lata, apice obtusa et subito caudato-acuminata, acumine angusto 2 cm. longo et ultra, basi late breviterque cordata, lobis posticis late rotundatis, membranacea, supra pallido-viridis, subtus paullo pallidior, e basi 9-nervia, costa prominente gracillima, nervis lateralibus utroque latere ca. 12 angulo semirecto adscendentibus tenerrimis subarcuatis prope marginem in nervum collectivum conjunctis, venulis prominulis laxe reticulatis; pedunculi graciles 9–11 cm. longi; spatha reflexa anguste oblonga in sicco fusco-brunnea ca. 3 cm. longa atque 5 mm. lata longiacuminata; spadix sessilis obtusus 2.5–3.5 cm. longus 3–4 mm. crassus.—Panama: In rain forest, Bajo Chorro, Boquete District, Provincia de Chiriquí, alt. 1,800 meters, January 17, 1938, *Mrs. M. E. Davidson* 134 (type in Herb. Field Mus.).

Anthurium seamayense Standl., sp. nov.—Epiphytica, caudiculo ut videtur brevi ca. 7 mm. crasso, internodiis brevibus; cataphylla ca. 5 cm. longa brunnea lanceolata rigida acuminata striata; petiolus gracillimus basi vix dilatatus 22–26 cm. longus, geniculo 12 mm. longo; lamina oblongo-ovata ca. 22 cm. longa atque 10 cm. lata subito breviter cuspidato-acuminata, basi profunde cordata, lobis posticis 6.5 cm. longis 4.8 cm. latis late rotundatis, sinu angusto vel clauso, utrinque lucida, e basi 5-nervia, nervis infimis trifurcis, costa subtus elevata gracili utroque latere supra basin nervos ca. 8 prope marginem in nervum collectivum conjunctos emittente, venulis prominulis laxe reticulatis; pedunculus petiolis subaequalis ca. 22 cm. longus gracillimus; spatha reflexa lanceolato-oblonga in sicco brunnea 4.5 cm. longa 1 cm. lata longiuscule acuminata; spadix sessilis obtusus 4 cm. longus 4 mm. crassus.—Guatemala: In virgin forest, Seraxcaj, Finca Seamay, Alta Verapaz, alt. 960 meters, February 15, 1939, *C. L. Wilson* 211 (type in Herb. Field Mus.).

COMMELINACEAE

Tradescantia anisophylla Standl., sp. nov.—Herba ramosa ut videtur procumbens, caulibus gracillimis glabris, internodiis ple-

rumque foliis longioribus; vaginae angustae 12–15 mm. longae ore valde obliquae brunnescentes, margine dorsoque dense pilis albidis longis patentibus hirsutae; folia inaequalia, superiora latiora, ovato-oblonga vel ovata, bracteis interdum subdeltoideo-ovatis, 4–5 cm. longa 2–2.5 cm. lata acuminata vel longiacuminata, basi subito contracta et truncata vel late rotundata, glabra; inflorescentia terminalis breviter vel longissime pedunculata dense multiflora, bracteis foliis conformibus sed paullo latioribus paulo inaequalibus, pedicellis filiformibus usque 15 mm. longis pilis longis albidis laxis patentibus pilosis; sepala lanceolato-linearia ca. 6 mm. longa pellucida viridi-costata apice breviter piloso-penicillata; petala caerulea 8 mm. longa et ultra eleganter venosa; stamina inaequilonga, filamentis longipilosis.—Mexico: Mount Tacaná, Chiapas, alt. 1,000–2,000 meters, August, 1938, *E. Matuda* 2505 (type in Herb. Field Mus.).

In general appearance this is much like *T. tacanana* of the same region, but there are obvious differences in the form of the leaves and sheaths.

Tradescantia belizensis Standl., sp. nov.—Herba ramosa, caulibus ut videtur procumbentibus ad nodos radicantibus pilis longissimis mollibus albidis patentibus vel subadpressis pilosis, internodiis foliis longioribus vel brevioribus; vaginae sublaxae 9–12 mm. longae plus minusve dense pilis longis albidis pilosae; folia lanceolato-oblonga 4–8 cm. longa 1.3–2.8 cm. lata longiacuminata, basi obliqua et breviter abrupte contracta, utrinque pilis longissimis laxis pallidis sat dense pilosa; inflorescentia terminalis longipedunculata vel interdum breviter tantum pedunculata, bracteis foliis conformibus atque fere aequilongis basi valde dilatatis patentibus, floribus longe vel breviter graciliter pedicellatis; petala pallido-rosea ca. 8 mm. longa glabra; stamina inaequalia, 3 breviora, filamentis longipilosis.—British Honduras: On hilltop, Vaca, El Cayo District, February 23, 1938, *Percy H. Gentle* 2228 (type in Herb. Univ. Michigan; fragment in Herb. Field Mus.).

Tradescantia Lundellii Standl., sp. nov.—Herba ramosa procumbens(?), caulibus gracillimis glabris vel in sulcis breviter pilosis, internodiis elongatis sed foliis brevioribus; vaginae angustae ca. 1 cm. longae ore oblique truncatae et dense pilis longissimis laxis pallidis pilosae, dorso quoque breviter pilosae; folia anguste oblongo-lanceolata vel lineari-lanceolata 2.5–5.5 cm. longa 3–12 mm. lata longe anguste attenuata basi obliqua obtusa vel subrotundata gla-

bra; flores umbellati, umbellis axillaribus et terminalibus solitariis vel geminatis pedunculos gracillimos interdum recurvos usque 3 cm. longos terminantibus, basi bracteis 2 pallidis lanceolato-linearibus usque 5 mm. longis fulcratis, plerumque 2–4-floris, pedicellis filiformibus usque 1 cm. longis glabris; sepala tenuia ovalia vel oblonga pallide viridia 2–2.5 mm. longa glabra obtusa; petala alba late elliptica vel ovalia apice rotundata glabra; stamina inaequalia, filamentis longipilosis.—Mexico: Tamazunchale, San Luis Potosí, in second growth on wet hillside, alt. 300 meters, July, 1937, *C. L. & Amelia A. Lundell* 7098 (type in Herb. Field Mus.; duplicate in Herb. Univ. Michigan). Chapulhuacán, Hidalgo, in wet *Liquidambar* forest, alt. 1,300 meters, July, 1937, *C. L. & Amelia A. Lundell* 7160.

Noteworthy for the combination of slender habit, short, narrow leaves, and small, white flowers arranged in small, open, lax umbels.

Tradescantia plusiantha Standl., sp. nov.—Herba erecta(?) vel decumbens 40 cm. longa et ultra ramosa, caulibus gracilibus dense minute pilis patentibus villosulo-pilosulis, internodiis valde elongatis folia fere aequantibus; vaginae laxae ca. 1 cm. longae oblique truncatae ubique dense minute pilosulae, margine breviter hirsutae; folia majuscula oblongo-elliptica vel ovato-oblonga 13 cm. longa et ultra 3.5–4.5 cm. lata anguste acuminata, basi cuneato-acuta atque in petiolum crassiusculum usque 1.5 cm. longum contracta, supra sparse minute pilosula vel glabrata, subtus sparse puberula vel fere glabra; inflorescentia terminalis, floribus umbellulatis, umbellulis in umbellam laxam multiradiatam dispositis, umbellae radiis gracillimis suberectis inaequalibus ad 5 cm. longis dense breviter villosulo-pilosulis; bracteae umbellulam fulcrantes rotundato-ovatae virides 10–14 mm. longae obtusae vel acutae basi breviter coalitae complanatae minute puberulae; flores in umbellula numerosae, pedicellis gracillimis ad 4 mm. longis glabris; sepala tenuia ovata subacuta ca. 3 mm. longa viridescentia sparse breviter pilosula vel glabrata; petala ut videtur alba.—Mexico: Mount Ovando, Chiapas, alt. 1,250–2,370 meters, July, 1938, *E. Matuda* 2569 (type in Herb. Univ. Michigan; fragment in Herb. Field Mus.).

No other species that I have seen is closely similar to this, which is outstanding because of the large, broad, thin leaves, and the very numerous and umbellate spathes.

Tradescantia tacanana Standl., sp. nov.—Herba ramosa ut videtur decumbens vel procumbens, caulibus gracilibus elongatis

glabris, internodiis elongatis, interdum foliis longioribus; vaginae angustae ca. 12 mm. longae margine dorsoque pilis longis albidis rigidiusculis sat dense hirsutae striato-nervosae ore subtruncatae; folia lanceolato-oblonga 7–9 cm. longa ca. 2.5 cm. lata longe attenuato-acuminata, basi subobliqua obtusa subito contracta, glabra; inflorescentia terminalis umbelliformis sat longe pedunculata, bracteis 2 foliis conformibus usque 5.5 cm. longis; flores pauci longipedicellati, pedicellis filiformibus ad 14 mm. longis sparse pilis longis laxis patentibus pilosis; sepala lineari-oblonga attenuata 6 mm. longa apice piloso-penicillata; petala ut videtur caerulea.—Mexico: Mount Tacaná, Chiapas, alt. 1,000–2,000 meters, August, 1938, *E. Matuda* 2504 (type in Herb. Univ. Michigan).

SMILACACEAE

Smilax calocardia Standl., sp. nov.—Frutex scandens, caulibus superioribus gracillimis teretibus brunneis striatis inermibus fere omnino glabris, in statu juveni sparse pilosis, internodiis elongatis; folia mediocria longiuscule petiolata coriacea, petiolo 1.5–3 cm. longo sparse hinc inde piloso, prope basin densius piloso longivaginato crasso; lamina late ovata vel orbiculari-cordata 6–10 cm. longa 3.5–8.5 cm. lata longiacuminata vel apice rotundata atque apiculato-acuminata, basi profunde cordata, integra, lobis posticis late rotundatis, sinu aperto vel clauso, supra lucida glabra, nervis venisque prominentibus atque arcte pulchre reticulatis, subtus concolor glabra vel glabrata, in statu juvenili ut videtur sparse pilosa, e basi 9-nervia, plus minusve lucida, venulis prominentibus atque eleganter arcteque reticulatis; umbellae masculae solitariae axillares, pedunculo rigido ca. 1 cm. longo densiuscule breviter villoso petiolo multo breviore; receptaculum globosum ca. 3.5 mm. diam. dense pilosum, bracteolis numerosis dense aggregatis; pedicelli graciles 4–5 mm. longi dense pilosi; perianthii segmenta oblongo-linearia obtusa fere 5 mm. longa extus sparse pilosa.—Panama: Volcán de Chiriquí, Prov. Chiriquí, alt. 2,250 meters, July 13, 1938, *Mrs. M. E. Davidson* 953 (type in Herb. Field Mus.); "flowers cream."

Evidently a relative of *Smilax Purpusii* Brandegee, native in Chiapas, but sufficiently distinct specifically, and well isolated geographically.

ZINGIBERACEAE

Renealmia chiriquina Standl., sp. nov.—Herba erecta 45–75 cm. alta, caule crassiusculo in sicco striato; folia pauca, vaginis

longissimis laxe vaginantibus arcte striato-nerviis, apice subito contractis et rotundatis; lamina sessilis anguste lanceolato-oblonga 8–18 cm. longa 2.5–4 cm. lata subabrupte anguste acuminata crasse chartacea glabra; caulis fertilis fere 40 cm. altus, foliis omnibus ad vaginas rigidas 5–6 cm. longas reductis; inflorescentia parva 2.5 cm. longa et aequilata densa, bracteis in sicco pallidis ovalibus costato-nervosis 1.5–2 cm. longis apice rotundatis et breviter caudato-apiculatis, rhachi brevi ut pedunculus dense minute patenti-pilosula, pedunculis crassis 3 cm. longis; bracteolae in involucellum campanulatum 7 mm. longum brevissime lobatum coalitae, floribus sessilibus; ovarium columnare 2.5 mm. longum tomentulosum.—Panama: In rain forest, Bajo Chorro, Boquete District, Provincia de Chiriquí, alt. 1,800 meters, "flowers light yellow," March 7, 1938, *Mrs. M. E. Davidson* 386 (type in Herb. Field Mus.).

The plant is unusual in the genus, at least as compared with Central American representatives, because of the remarkably small leaf blades.

PIPERACEAE

Lindeniopiper Williamsii Trelease, sp. nov.—Arbuscula ramosa, ramis fere e basi nascentibus nodosis, internodiis brevibus gracilibus puberulis; folia oblonga longiacuminata, basi oblique cordulato-auriculata, lobo longiore petiolum occultante, 8–9 cm. longa 1.5–2.5 cm. lata, multiplinervia, nervis 3 fere basalibus adjectis, nervis supra basin folii ca. 7×2 angulo fere recto abeuntibus, subtus pallidiora plus minusve puberula, petiolo 5 mm. longo puberulo; spicae ramulum brevem sympodialem 1-foliatum terminantes 25 mm. longae, pedunculo 10 mm. longo; bracteae cucullatae; baccae subglobosae glandulosae; stigmata 3 lata sessilia.—Mexico: Coatzacoalcos, Veracruz, *Llewelyn Williams* 8386 (type in Herb. Field Mus.).

Peperomia cambuquirana Trelease, sp. nov.—Herba parvula glabra stolonifera, caule filiformi; folia alterna lanceolato-elliptica vel (infima) subovata obtusa, superiora sensim acuta vel subacuminata, 2–4 cm. longa 1 cm. lata, subobscure trinervia, petiolo filiformi 10 mm. longo; spicae vix 10 mm. longae atque 2 mm. crassae, pedunculo 3 mm. longo.—Brazil: Matta da Empreza, Cambuquira, State of Minas Gerais, *H. Mello Barreto* 7235 (type in Herb. Field Mus.).

Peperomia coatzacoalcosensis Trelease, sp. nov.—Ut videtur herba parva ramosa arboricola, internodiis brevibus gracilibus breviter villosis, inferioribus glabrescentibus; folia alterna anguste

lanceolata utrinque sensim acuta, ca. 2.5–4 cm. longa atque 1 cm. lata, utrinque plus minusve molliter pilosa, obscure trinervia, petiolo 2 mm. longo pubescente; inflorescentia non visa.—Mexico: Fortuño, Coatzacoalcos, Veracruz, alt. 30–50 meters, *Llewelyn Williams* 8509 (type in Herb. Field Mus.).

Peperomia erasmiaeformis Trelease, sp. nov.—Herba majuscula stolonifera erecta simplex glabra, caule crassiusculo 5 mm. crasso nodoso, internodiis brevibus; folia pauca ad apicem caulis aggregata anguste lanceolata utrinque acuta 18–20 cm. longa 3 cm. lata, pinnatim ca. 13-nervia, subtus aliquanto pallidiora, petiolo 1–3 cm. longo; spicae plures late divaricatae atque paniculam latam foliis longiorem apertam efformantes 80 mm. longae 3 mm. crassae, pedunculo 5 mm. longo; ovaria anguste oblonga, scutulo acuto erecto infra medium stigmatifero.—Venezuela: Cloud forest, Rancho Grande, State of Aragua, alt. 1,200–1,500 meters, *H. Pittier* 13985 (type in Herb. Field Mus.).

Peperomia flagrans Trelease, sp. nov.—Scandens majuscula glabra carnosa, internodiis brevibus crassis; folia alterna elliptico-subovata subacuminata, basi obtusa, 9–10 cm. longa 4–5 cm. lata, in sicco opaca ca. trinervia, petiolo 5 mm. longo crasso; spicae singulae oppositifoliae erectae obscure rubrae 100–150 mm. longae 8 mm. crassae, pedunculo 10–15 mm. longo; bracteae rotundato-peltatae; baccae rotundatae, stigmate subapicali.—Ecuador: Above Balsapampa, alt. 2,600 meters, *Rimbach* 847 (type in Herb. Field Mus.).

Peperomia Johnstonii Trelease, sp. nov.—Herba modica plus minusve persistente sed obscure molliter pilosa, caule 2–3 mm. crasso; folia alterna elliptico-obovata rotundata vel subacuta, basi acuta, 34 mm. longa 20 mm. lata, in sicco translucente trinervia atque venulosa, petiolo 10–15 mm. longo; inflorescentia non visa.—Guatemala: Volcán de Agua, Dept. Sacatepéquez, *J. R. Johnston* 220 (type in Herb. Field Mus.).

Peperomia Langsdorffii Miq. var. **resacana** Trelease, var. nov.—Planta alta, caulibus gracillimis 1–2 mm. crassis obscuriuscule subvillosis; folia lanceolata utrinque acuta 4–5 cm. longa 1.5–2 cm. lata 5-nervia, petiolo filiformi 5–10 mm. longo.—Brazil: Resaca, Belo Horizonte, State of Minas Gerais, *H. Mello Barreto* 7234 (type in Herb. Field Mus.).

Peperomia santa-helenae Trelease, sp. nov.—Herba majuscula aliquanto caespitosa molliter villosa, caule aliquanto superne genicu-

lato, inferne 2–3 mm. crasso; folia alterna elliptica utrinque subacuta 2–3.5 cm. longa 1–1.5 cm. lata trinervia, in sicco coriacea atque subtus flavescentia, petiolo ca. 5 mm. longo; spicae axillares (propter folia delapsa spurie paniculatae) 50 mm. longae 1 mm. crassae, pedunculo gracili 10–15 mm. longo.—Guatemala: Santa Helena, Dept. Tecpám, *J. R. Johnston* 421 (type in Herb. Field Mus.).

Peperomia Uphofii Trelease, sp. nov.—Herba modice parva rhizomatoso-assurgens glabra, caule gracili vix 2 mm. crasso; folia alterna ovata acuminata, basi subtruncata atque subito breviterque acuta, 3.5–6.5 cm. longa 2.5–5 cm. lata submultiplinervia in sicco tenerrima translucentia, petiolo 2.5 vel in foliis inferioribus 10 mm. longo usque ad basin alato; spicae 1 vel 2 subapicales 100 mm. longae 1 mm. crassae, bracteis rotundato-peltatis; baccae ovoideae, stylo brevi, stigmate apicali.—El Salvador: On wet rocks near San Salvador, *J. C. T. Uphof* (type in Herb. Field Mus.).

Piper corte-scabrum Trelease, sp. nov.—Frutex late divaricatus 5-metralis ubique minute scaber, internodiis superioribus brevibus gracilibus; folia lanceolata vel lanceolato-oblonga acuminata, basi oblique subobtusa, ca. 15 cm. longa atque 5 cm. lata, e 2 tertiis inferioribus pinnatinervia, nervis ca. 5×2, petiolo vix 5 mm. longo; spicae in statu juvenili 15 mm. longae 3 mm. crassae, pedunculo 5 mm. longo.—Mexico: Fortuño, Río Coatzacoalcos, Veracruz, *Llewelyn Williams* 9034 (type in Herb. Field Mus.).

Piper fortunyoanum Trelease, sp. nov.—Frutex glaber vix bimetralis; folia elliptica acuminata basi inaequaliter cordulata 15–20 cm. longa 7–10 cm. lata ubique pinnatinervia, in sicco tenuia, petiolo 2.5–3 cm. longo in tota longitudine alato; spicae juveniles 25 mm. longae 3 mm. crassae apiculatae, pedunculo 5–10 mm. longo. —Mexico: Fortuño, Río Coatzacoalcos, Veracruz, *Llewelyn Williams* 8554 (type in Herb. Field Mus.).

Piper Henscheni C. DC. var. **Barretoi** Trelease, var. nov.—Frutex trimetralis e forma typica foliis fere orbicularibus 11.5 cm. longis 8.5 cm. latis differt; spicae 50 mm. longae 3 mm. crassae, pedunculo 10 mm. longo.—Brazil: Domingos Pisoni, Leopoldina, State of Minas Gerais, *H. Mello Barreto* 7250 (type in Herb. Field Mus.).

Piper oblique-ovatum Trelease, sp. nov.—Frutex ut videtur multiramosus glaber, internodiis superioribus brevibus gracilibus striatis; folia lanceolato-ovata vel saepius late ovata acuta, basi

gibboso-cordata, lobo majore petiolum occultante, 10–12 cm. longa 4–6 cm. lata, 5-nervia, petiolo 10 mm. longo; inflorescentia non visa.—Guatemala: Concepción, Dept. Chimaltenango, *J. R. Johnston* 557 (type in Herb. Field Mus.).

Piper perobumbratum Trelease, sp. nov.—*Piper geniculatum* of authors as to Brazil, in part. Frutex glabratus foliis inter *P. exsertum* atque *P. obumbratum* intermedius; folia elliptica vel elongato-elliptica ca. 25–27 cm. longa atque 10 cm. lata, latere longiore basi rotundato vel subcordulato, non in petiolum cuneato-decurrens. —Brazil: Rio de Janeiro, *Pohl* 4772 (type in herb. Mus. Vienna) and 4777.

Piper resacanum Trelease, sp. nov.—Glabra nodosa bimetralis, internodiis brevibus modice gracilibus; folia lanceolata acuta, basi subcuneata, 9–13 cm. longa 3 cm. lata ubique pinnatinervia, nervis primariis ca. 8×2, petiolo 5 mm. longo; spicae 15 mm. longae 3 mm. crassae breviter apiculatae, pedunculo 10 mm. longo; bracteae pallidae, centro obscuro.—Brazil: Resaca, Belo Horizonte, State of Minas Gerais, *H. Mello Barreto* 7251 (type in Herb. Field Mus.).

Piper santa-barbaranum Trelease, sp. nov.—Frutex glaber nodosus trimetralis, internodiis superioribus brevibus gracilibus; folia lanceolato-elliptica 15 cm. longa 5–6 cm. lata, vel reducta lanceolata 12 cm. longa 3 cm. lata, sensim subacuminata, basi aequaliter acuta, e tertio infimo pinnatinervia, nervis 3×2 vel pare obscuro altero adjecto, petiolo 10 mm. longo infra medium vaginato; spicae 45 mm. longae 4 mm. crassae obtusae, pedunculo 7 mm. longo.— Brazil: Santa Barbara, Serra do Caraça, State of Minas Gerais, *H. Mello Barreto* 7244 (type in Herb. Field Mus.).

Piper ubiqueasperum Trelease, sp. nov.—Frutex vix bimetralis ubique minute scabro-pubescens; folia oblonga 18 cm. longa 7 cm. lata, interdum oblongo-subovata atque 20 cm. longa et 8 cm. lata, acuminata, basi oblique obtusa, e medio inferiore pinnatinervia, nervis ca. 5×6, petiolo vix 5 mm. longo; inflorescentia non visa.— Mexico: Fortuño, Río Coatzacoalcos, Veracruz, *Llewelyn Williams* 8902 (type in Herb. Field Mus.).

Piper ubiquescabridum Trelease, sp. nov.—Frutex ca. trimetralis ubique minute scabro-pubescens, internodiis superioribus brevibus gracilibus; folia late elliptica acuminata, basi paullo inaequilateralia, latere breviore rotundato, 18–20 cm. longa 9–10 cm.

lata, e medio inferiore pinnatinervia, nervis 6×2, petiolo ca. 15 mm. longo; spicae 100 mm. longae 3 mm. crassae acutae, pedunculo 15 mm. longo.—Mexico: Fortuño, Río Coatzacoalcos, Veracruz, alt. 30–50 meters, *Llewelyn Williams* 8821 (type in Herb. Field Mus.).

Piper viminifolium Trelease, sp. nov.—Frutex bimetralis nodosus glaber, internodiis brevibus gracilibus; folia anguste lanceolata utrinque longe acuta, 10–16 cm. longa, 1.5–3 cm. lata, ubique pinnatinervia, nervis in sicco flavescentibus vel rubescentibus, petiolo 5 mm. longo; spicae 35–40 mm. longae 3 mm. crassae, pedunculo 5 mm. longo.—Brazil: Botanic Garden, Belo Horizonte, State of Minas Gerais, *H. Mello Barreto* 7248 (type in Herb. Field Mus.).

JUGLANDACEAE

Engelhardtia guatemalensis Standl., sp. nov.—Arbor parva vel alta, ramulis gracilibus elevato-lenticellatis subteretibus, novellis in sicco fusco-brunneis dense brunneo-lepidotis, serius glabratis, ad nodos interdum breviter denseque hirsutis; folia opposita magna petiolata, rhachi gracili lepidota vel fere glabra; foliola vulgo 14 vel 16 anguste lanceolato-oblonga 9–20 cm. longa vel ultra 2.3–5 cm. lata longe angusteque attenuata, basi paullo obliqua acuta, integerrima vel rare serrata, supra viridia ad costam sparse hispidula vel fere omnino glabra, costa nervisque prominentibus vel prominulis, subtus pallida glaucescentia ubique dense minute adpresso-lepidota, petiolulis crassis 2–3 mm. tantum longis.—Guatemala (Dept. Alta Verapaz): Wet forest near Tactic, alt. 1,500 meters, April 5, 1939, *Paul C. Standley* 70477 (type in Herb. Field Mus.), 70507, 70493. Region of Chelac, northeast of Carchá, on the new road to Petén, 1,500 meters, *Standley* 70370, 70379.

It was a great surprise to the writer to discover in the mountains of the Cobán region a tree of the genus *Engelhardtia*. It was still more of a surprise to find the tree very common in the region, one in which so much collecting had been done over a period of many years. It still seems strange that such an observant and discriminating collector as von Tuerckheim should not have collected specimens, but if he did so, they have not come to the writer's attention, and no report has been published of such a tree from the forests of Guatemala.

The available material, unfortunately, is sterile, and it was impossible to discover trees with either flowers or fruits, although many hundreds of individuals were observed along the Petén road

and along the roads at various places in the Tactic region. The trees are easy of recognition, even from a considerable distance, when once noticed, because of the crimson coloring of the young foliage. In this respect they suggest the *amché* (*Rhus striata*) so common in the same region. Moreover, when the foliage is inspected closely, it is so much like that of this highly poisonous tree that it requires considerable courage to touch the leaves. *Rhus*, of course, has alternate, not opposite leaves, but otherwise the leaves, especially in their red coloration, are singularly alike, at least in the field. Several Indians and *ladinos* who were questioned about the tree stated that it was common in Alta Verapaz, but that they knew no local name for it. This is really remarkable in a region where the Kekchí people usually have a name for every insignificant weed.

In America two species of *Engelhardtia* have been known previously, *E. pterocarpa* (Oerst.) Standl., of Costa Rica, and *E. mexicana* Standl., of Tabasco. *E. pterocarpa* differs from the Guatemalan tree in its alternate leaves with less numerous leaflets on long petiolules. The Guatemalan species would be expected, perhaps, to be conspecific with the Tabasco one, but comparison shows that it apparently is fully distinct. In *E. mexicana* the leaflets are on much longer petiolules and are conspicuously rounded on one side at the base. Besides, they are less numerous, and most of them have a small basal lobe that is closely recurved against the lower surface of the blade. It is probable that when the fruit of *E. guatemalensis* is collected, it will be found to afford additional characters.

FAGACEAE

Quercus boquetensis Standl., sp. nov.—Arbor 6–12-metralis, ramulis nigrescentibus glabris lenticellis pallidis elevatis notatis, sat dense foliatis; folia parva breviter petiolata subcoriacea integra, petiolo gracili 2–4 mm. longo glabro; lamina lineari-lanceolata 3.5–7 cm. longa 1–1.5 cm. lata longe sensimque attenuata, basi acuta vel acuminata, utrinque plus minusve lucida, supra in sicco fusca, costa subdepressa, nervis venisque non elevatis, subtus concolor, ad costam gracilem elevatam hinc inde breviter piloso-barbata, aliter glabra, nervis venisque obscuris; pedunculi feminei in axillis superioribus crassi vix ultra 3 mm. longi glabri; cupula breviter late hemisphaerica ca. 15 mm. lata atque 6 mm. alta, squamis multiseriatis triangulari-ovatis obtusis brunnescenti-marginatis dorso dense minute ochraceo-sericeis; glans ovoideo-globosa ca. 12 mm. longa et

aequilata, apice late rotundata et umbonata, ubique dense sericea. —Panama: Open hillside, Boquete, Provincia de Chiriquí, alt. 1,650 meters, June 26, 1938, *Mrs. M. E. Davidson* 780 (type in Herb. Field Mus.).

Quercus Davidsoniae Standl., sp. nov.—Arbor excelsa, ramulis brunneo-fuscis crassis sat dense pilis patentibus sordidis hirsuto-pilosis, internodiis brevibus; folia majuscula breviter petiolata subcoriacea, petiolo crasso 10–14 mm. longo piloso vel glabrato; lamina lanceolato-oblonga vel elliptico-oblonga 14–19 cm. longa 6–7 cm. lata acuminata vel longiacuminata, basin versus paullo angustata, basi ipsa anguste rotundata vel truncata, saepe breviter cordata, supra in sicco fuscescenti-brunnescens glabra sublucida, costa nervisque prominulis, subtus fere concolor, sublucida vel opaca, in statu juvenili plus minusve minute stellato-pilosula, cito glabrata vel fere glabra, costa gracili elevata, nervis lateralibus utroque latere ca. 20 prominentibus rectis angulo semirecto adscendentibus in marginem desinentibus, venulis vix prominulis laxe reticulatis, margine toto remote depresso-serrato; pedunculi feminei ex axillis superioribus nascentes crassissimi ca. 1.5 cm. longi; cupula hemisphaerica magna 4 cm. lata 2 cm. et ultra alta, squamis multiseriatis arcte adpressis triangulari-ovatis anguste acutatis, apice ipso anguste obtuso, dorso densissime ochraceo-sericeis; glans immatura ca. 2.5 cm. alta atque 3 cm. lata, subglobosa, apice fere truncata et profunde depressa subumbonata, primo dense ochraceo-sericea, serius glabrata.—Panama: Boquete, Provincia de Chiriquí, alt. 1,200 meters, July 6, 1938, *Mrs. M. E. Davidson* 864 (type in Herb. Field Mus.).

A handsome addition to the known large-fruited oaks of Central America, and scarcely to be confused with any of the species of this group described and so elegantly illustrated by Trelease in his monograph of American oaks.

MORACEAE

Cecropia orinocensis Standl., sp. nov.—Petiolus (perfectus non visus) ultra 15 cm. longus striatus minute subsparseque puberulo-tomentulosus; lamina crasse membranaca ambitu suborbicularis ca. 35 cm. longa breviter 9-loba, supra in sicco griseo-viridis sat dense scaberula, subtus pallidior brunnescenti-grisea ubique minutissime subadpresse puberulo-tomentella, peltata, lobis latis apice rotundatis vel obtusissimis, costa gracili subtus elevata utroque latere nervos ca. 30 fere rectos vel leviter incurvos graciles prominentes emittente,

venulis crebris transversis parallelis fere rectis; inflorescentia feminea crasse 4.5 cm. longe vel ultra pedunculata, pedunculo glabro vel glabrato, spatha 8.5 cm. longa 1.5 cm. lata abrupte attenuata dense minute puberulo-tomentella; spicae 3–4 sessiles 5–5.5 cm. longae obtusae 5–6 mm. crassae.—Venezuela: Mouth of Río Caño Cárida, humid forest, Río Orinoco, Amazonas Territory, alt. 100 meters, January, 1930, *E. G. Holt & W. Gehriger* 248 (type in U. S. Nat. Herb.).

Vernacular name "yagrumo." Like most species of the genus, this has no particularly noteworthy characters, but thorough study has failed to identify it with any species described or reported from northern South America.

Ficus Davidsoniae Standl., sp. nov.—Arbor 9–18-metralis fere omnino glabra, ramulis crassis, internodiis brevibus vel brevissimis; stipulae caducae triangulari-oblongae ca. 1.5 cm. longae anguste sensim attenuatae rigidae in sicco fuscae glabrae; folia mediocria breviter petiolata coriacea, petiolo crasso 6–9 mm. longo; lamina obovato-oblonga 11–14.5 cm. longa 5–6 cm. lata obtusa, basin obtusam vel anguste rotundatam versus sensim angustata, supra in sicco sublucida, costa elevata, nervis venisque prominulis, subtus concolor, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 15 teneris angulo lato fere recto abeuntibus fere rectis, prope marginem arcuato-conjunctis, aliis tenuioribus parallelis interpositis, venulis prominulis arctissime reticulatis; receptacula sessilia geminata subglobosa fere 1 cm. diam. glabra, involucro bilobo inaequali arcte adpresso fere totum receptaculum involvente, ostiolo parvo elevato.—Panama: Boquete, Provincia de Chiriquí, alt. 1,200 meters, May 20, 1938, *Mrs. M. E. Davidson* 688 (type in Herb. Field Mus.).

The tree is characterized specifically by the rather large, many-nerved, coriaceous leaves of somewhat unusual shape, and by the sessile receptacles with a large involucre which, at least at first, almost completely covers the fruits.

Ficus Lehmannii Standl. Field Mus. Bot. 4: 202. 1929.

Definite locality data were not available when this species was published, but they have now been supplied by Mr. Ellsworth P. Killip from Lehmann's field notes: "Colombia. Grows in open wood formations on the plateau of Popayán, 1,500–1,800 meters. Up to 10 meters high, with a close, round crown. Leaves leathery, dark green, slightly lustrous."

Ficus mattogrossensis Standl., sp. nov.—Arbor alta, ramulis crassiusculis glabris, internodiis brevibus; stipulae ca. 12 mm. longae caducae triangulari-lanceolatae longiattenuatae dorso dense adpresso-pilosae; folia majuscula longipetiolata coriacea, petiolo crassiusculo 3–6 cm. longo glabro; lamina oblanceolato-oblonga vel obovato-oblonga 11–20 cm. longa 4–7 cm. lata apice rotundata, basin versus sensim angustata, basi ipsa acuta vel cuneata, supra in sicco subfusco-viridis glabra, nervis non elevatis, subtus pallidior, glabra sed saltem in sicco ubique sat dense minute pallide papillosa, basi trinervia vel obscure 5-nervia, costa crassa prominente, nervis lateralibus utroque latere ca. 10 valde obliquis teneris prominentibus pallidis angulo ca. semirecto adscendentibus subarcuatis, juxta marginem arcuato-conjunctis, venulis prominulis arcte reticulatis; receptacula geminata breviter pedunculata ovali-globosa 17–20 mm. longa ca. 15 mm. lata, basi et apice rotundata, dense minute puberulo-tomentella, ostiolo valde prominente ca. 3 mm. lato, pedunculo crassissimo vix 3 mm. longo, involucro bilobo extus subdense adpresso-piloso, lobis latis apice rotundatis ca. 6 mm. longis, intus dense sericeis.—Brazil: Lagoinha, C. Grande, Matto Grosso, caminho para Capão Bonito, September, 1936, *W. Archer & Aug. Gehrt* 61 (type in U. S. Nat. Herb.; duplicate in Herb. Field Mus.).

Ficus zarzalensis Standl., sp. nov.—Arbor, ramulis crassis, novellis pallide cinnamomeis glabris, internodiis brevissimis; stipulae bene evolutae non visae, juvenes ca. 8 mm. longae oblongo-lanceolatae attenuato-acuminatae dense minute scaberulo-tomentellae et dorso adpresso-hirsutae, deciduae; folia mediocria longe petiolata coriacea, petiolo crassiusculo 2–4 cm. longo glabro; lamina obovato-oblonga 8–11 cm. longa 4–5 cm. lata, apice obtusissima vel anguste rotundata, basin versus paullo angustata, basi ipsa anguste obtusa, utrinque glabra, supra in sicco pallide brunnescens, nervis non elevatis, subtus fere concolor, basi trinervia vel obscure 5-nervia, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 7 arcuatis teneris angulo latiusculo abeuntibus prope marginem arcuato-conjunctis, venulis vix prominulis subarcte reticulatis; receptacula geminata breviter pedunculata globosa 1 cm. diam. basi et apice rotundata minute puberula atque scabra, ostiolo elevato, margine incrassato, pedunculo crasso vix ultra 3 mm. longo, involucro bilobo extus glabro, lobis apice late rotundatis ca. 3 mm. longis.—Colombia: Low forest east of Zarzal, Departamento de El Valle, Cauca Valley, 970–1,050 meters, July, 1922, *F. W. Pennell*,

E. P. Killip & T.E. Hazen 8391 (type in U. S. Nat. Herb.; fragment in Herb. Field Mus.).

Trophis nubium Standl., sp. nov.—Frutex vel arbor 3–6-metralis, ramulis gracillimis subflexuosis brunneis vel brunnescentibus minute puberulis vel glabris, internodiis brevibus plerumque 1–2 cm. longis; stipulae deciduae anguste triangulares 3 mm. longae sparse breviter pilosulae; folia breviter petiolata crasse membranacea, petiolo gracili 6–9 mm. longo minute puberulo vel glabro; lamina lineari-lanceolata 8–14 cm. longa 1.5–2.5 cm. lata longissime angustissime attenuato-acuminata, acumine fere lineari usque 2.5 cm. longo obtuso, basi obtusa vel subacuta, glabra, costa supra impressa, nervis venisque vix prominulis, subtus fere concolor, costa tenera elevata, nervis lateralibus utroque latere ca. 15 angulo lato abeuntibus prominentibus tenerrimis, venulis prominulis arcte reticulatis, margine toto saltem supra tertiam inferiorem argute serrato; racemi feminei axillares pauciflori laxi breviter pedunculati pedunculo incluso ca. 2 cm. longi usque 10-flori, rhachi dense minute tomentella, pedicellis crassiusculis ca. 2–3 mm. longis; fructus juvenilis ovali-globosus ca. 4 mm. longus basi rotundatus minutissime sparse sericeus vel glabratus; styli rami filiformes 3–5 mm. longi puberuli. —Guatemala: Second-growth thicket, Volcán de Zunil, Dept. Quezaltenango, alt. 1,650 meters, August 3, 1934, *Alexander F. Skutch* 925 (type in Herb. Field Mus.). In forest, Volcán de Atitlán, Dept. Suchitepéquez, alt. 2,190 meters, October, 1934, *Skutch* 1511.

The narrow leaves at once distinguish this from all other Central American and Mexican species of *Trophis*.

LORANTHACEAE

Dendrophthora guatemalensis Standl., sp. nov.—Frutex parasiticus aphyllus sat dense ramosus glaber 17 cm. altus et ultra, ramis crassiusculis rigidis fragilibus teretibus, internodiis 7–15 mm. longis in sicco longitrorsum rugosis flavidis dense minutissime tuberculatis, squamis vix 1 mm. longis apice rotundatis; inflorescentiae axillares breviter crasseque pedunculatae 1–3-articulatae, spicis femineis vulgo articulo 1-floro terminatis, flore arcte sessili trimero; sepala 3 clausa late triangularia obtusa.—Guatemala: Mountain slopes above Finca Seamay, Alta Verapaz, February 14, 1939, *C. L. Wilson* 204 (type in Herb. Field Mus.).

Phoradendron Davidsoniae Standl., sp. nov.—Frutex parasiticus omnino glaber ramosus, ramis suberectis subteretibus vel

obscure compressis in sicco fuscis vel brunnescentibus, internodiis 2–3 cm. longis; cataphylla basi tantum rami inserta adpressa 4–5 mm. longa; folia inter minora fere sessilia crasse coriacea linearioblanceolata 3–6.5 cm. longa 5–11 mm. lata obtusa, basin versus sensim anguste attenuata, basi petioliformi, obscure trinervia; spicae breviter pedunculatae in axillis solitariae 1.5–3 cm. longae 3–4 mm. crassae 3–4-articulatae, articulis subclavatis vulgo 4-floris, floribus 4-seriatis; fructus subglobosus ut videtur albus 4 mm. diam. laevis. —Panama: Boquete, Provincia de Chiriquí, alt. 1,140 meters, June 24, 1938, *Mrs. M. E. Davidson* 740 (type in Herb. Field Mus.). Volcán de Chiriquí, Provincia de Chiriquí, July, 1938, *Davidson* 923.

POLYGONACEAE

Coccoloba Zernyi Standl., sp. nov.—Frutex, ramulis gracillimis subteretibus dense puberulis vel strigillosis, internodiis ut videtur brevibus; ochreae (e parte superiore ramuli tantum visae) vix ultra 2 mm. longae laxae dense strigosae parum obliquae; folia parva breviter petiolata coriacea, petiolo gracili ca. 5 mm. longo paullo strigoso; lamina ovata vel oblongo-ovata 4–5.5 cm. longa 1.7–2.5 cm. lata breviter sensim acuminata, basi obtusa, supra in sicco fusco-brunnescens sublucida ad costam prominentem sparse pilosula, aliter glabra, nervis venisque vix manifestis, subtus fere concolor sparse minute patenti-pilosula, costa gracili elevata, nervis lateralibus utroque latere ca. 10 tenerrimis prominulis arcuatis angulo fere recto adscendentibus, venulis vix manifestis; spicae paniculatae graciles usque 11 cm. longae flexuosae laxe fere ad basin multiflorae ca. 3 mm. latae, rhachi dense minute patenti-pilosa, floribus solitariis, pedicellis filiformibus glabris ochreolam vix aequantibus vel interdum fere duplo longioribus, ochreolis tenuibus brunnescentibus membranaceis strigillosis 1–1.5 mm. longis; sepala ovali-ovata 1.3 mm. longa ad anthesin patentia obtusa extus puberula.—Brazil: Amazonas, in secondary forest at the foot of the highlands, Taperinha, near Santarem, August 13, 1927, *H. Zerny* 890 (type in Herb. Field Mus.).

Noteworthy for the small and neat leaves, and the abundant, laxly paniculate, long and slender racemes.

NYCTAGINACEAE

Torrubia parvifolia Standl., sp. nov.—Frutex vel arbor, ramulis crassiusculis primo minute subdense ferrugineo-tomentellis, cito glabratis, brunneo-fuscis, subteretibus, internodiis brevibus; folia

parva breviter petiolata rigide coriacea opposita vel ternata, petiolo vix ultra 2 mm. longo ferrugineo-tomentello vel glabrato; lamina anguste elliptica, oblongo-ovata vel rare rotundato-elliptica 1.5–2.5 cm. longa 7–12 mm. lata obtusa vel acutata, apice ipso obtuso, basi saepe subobliqua obtusa vel subacuta, lucida, costa supra gracillima prominente, nervis obsoletis, subtus in sicco brunnescens, costa vix prominulo, nervis venisque obsoletis, margine plus minusve revoluto; inflorescentia (bene evoluta non visa) parva capituliformis 6–7 mm. longe pedunculata ca. 6-flora, pedunculo ferrugineo-tomentello vel glabrato, floribus sessilibus vel subsessilibus; perianthium ca. 2 mm. longum anguste campanulatum glabratum.—Brazil: Alto da Serra, São Paulo, *Mansueto Koscinski* 162 (Herb. Secc. Bot. Inst. Biol. S. Paulo 31062, type; fragment in Herb. Field Mus.).

An unusually well marked species, easy of recognition because of the very small and lustrous, coriaceous leaves.

CARYOPHYLLACEAE

Arenaria Quirosii Standl., sp. nov.—Herba ut videtur erecta, caespitosa(?), caulibus crassiusculis simplicibus rectis dense foliatis usque 6 cm. tantum altis dense pilis brevibus albidis patentibus hirtellis, internodiis brevibus; folia parva sessilia vel in petiolum brevissimum contracta late elliptica herbacea 3–4 mm. longa apice obtusa vel obtusissima atque acuminato-apiculata, basi breviter angustata, supra dense breviter patenti-pubescentia, subtus saltem ad costam breviter pubescentia, 1-nervia; flores axillares singuli, pedicellis folia aequantibus vel paullo longioribus dense hirtellis; sepala 2.5–3.5 mm. longa lanceolato-oblonga vel oblongo-ovata subulato-acuminata pallido-marginata viridi-carinata dorso patenti-pubescentia; petala ut videtur nulla; semina ovali-globosa lucidissima 0.7 mm. longa atro-ferruginea fere laevia.—Costa Rica: Faldas del Volcán de Irazú, September 15, 1938, *Manuel Quirós C.* 812 (type in Herb. Field Mus.).

It is strange that such a distinct plant as this, growing in a region visited by almost all botanists who have worked in Costa Rica, should have been overlooked, but perhaps its diminutive size is responsible for the oversight. It is not similar to any of the few species known previously from Central America.

RANUNCULACEAE

Thalictrum panamense Standl., sp. nov.—Herba erecta elata 60–120 cm. alta, caulibus teretibus gracilibus brunnescentibus atque

glaucescentibus glabris, internodiis solemniter elongatis; folia sat magna, superiora longiuscule petiolata, basalia non visa, rhachibus gracillimis glabris vel microscopice puberulis; foliola numerosa parva membranacea ca. 2 mm. longe petiolulata rhombico-flabellata plerumque 8–17 mm. longa atque 5–12 mm. lata epeltata basi rotundata vel obtusa, vulgo breviter trilobata, rare subintegra vel 5-crenata, supra intense viridia minutissime puncticulata, subtus glauca glabra vel sparse minutissime puberula, venis reticulatis sed vix elevatis; inflorescentia foliata ampla, pedicellis fructiferis ca. 2 cm. longis filiformibus; achaenia 4–5 mm. longa oblique fusiformia compressa incrassato-marginata glabra basi acuta atque obliqua, apice acuta atque breviter rostrata, utrinque insigniter tricostata, stylis filiformibus usque 8 mm. longis.—Panama: Boquete, Prov. Chiriquí, alt. 1,350 meters, June 26, 1938, *Mrs. M. E. Davidson* 791 (type in Herb. Field Mus.).

This is apparently the only species of *Thalictrum* thus far collected in the mountains of Panama. The single Costa Rican species, *T. Lankesteri* Standl., has more or less peltate and much broader leaflets.

MENISPERMACEAE

Disciphania cardiophylla Standl., sp. nov.—Caulis gracilis striatus pilis rigidulis patentibus pilosus, internodiis elongatis; folia majuscula longipetiolata herbaceo-membranacea, petiolo gracili ca. 5 cm. longo sparse hirsuto; lamina late cordato-ovata 6.5–10 cm. longa 4.5–7 cm. lata, apice abrupte breviter cuspidato-acuminata, acumine usque 8 mm. longo, basi breviter aperte cordata, in sicco nigrescens, supra lucida sparse saltem ad costam hirsuta, subtus ubique sat dense hirsuta, e basi 7-nervia, venis utrinque prominentibus gracilibus laxe reticulatis; racemi masculi axillares solitarii vel geminati gracillimi usque 7 cm. longi sat dense pilis brevibus pilosi, floribus numerosis remotis sessilibus, bracteis minutis subulatis; perianthium extus sparse breviter pilosum, sepalis basi cupuliformi-conjunctis ca. 2.5 mm. longis, parte libera oblongo-ovata stellatim patente vel subrecurva intus glabra; stamina 3.—Mexico: Coscomatepec, Veracruz, May 10, 1937, *E. Matuda* 1335 (type in herb. Univ. Michigan; fragment in Herb. Field Mus.).

Most species of the genus are South American, and the group has been recorded from Mexico only recently. *D. mexicana* Bullock (Kew Bull. 388. 1936), of the State of Mexico, differs from the present species in having deeply lobate leaves.

Hyperbaena brunnescens Standl., sp. nov.—Frutex scandens, ramis crassis teretibus dense molliterque pilis patentibus aureo-brunneis longiusculis pilosis, internodiis brevibus vel aliquanto elongatis; folia majuscula longipetiolata subcoriacea, petiolo 4–6.5 cm. longo gracili vel crassiusculo apice incrassato; lamina ovata vel lanceolata 13–16 cm. longa 5–8 cm. lata anguste acuminata, basi subtruncata, late rotundata vel interdum tantum obtusa, supra in sicco lucida fusca fere omnino glabra, nervis subimpressis, subtus fere concolor brunnescens ubique dense pilis patentibus aureo-brunneis brevibus molliter pilosa, basi 5-nervia, nervis elevatis gracilibus, costa superne utroque latere nervos secundarios 1–2 emittente, venis prominulis transversis distantibus subparallelis; cetera ignota.—Guatemala: Near Puerto Barrios, Dept. Izabal, in wet thicket, at sea level, April–May, 1939, *Paul C. Standley* 73091 (type in Herb. Field Mus.). Also No. 73040 from the same locality.

During the past few years so many species of *Hyperbaena* have been described from Mexico and Central America that more would scarcely be expected there, but it may be that some are very local in distribution. The present species is better marked than many of the others, being easy of recognition because of the palmately nerved leaves, covered beneath with a characteristic, dense, golden-brown pubescence.

CAPPARIDACEAE

Steriphoma clara Standl., sp. nov.—Frutex 1–2-metralis pauciramosus, ramis crassiusculis subteretibus dense tomento brunneo stellato subadpresso indutis, internodiis brevibus vel elongatis; folia longipetiolata membranacea, petiolo gracili tereti 4–9 cm. longo sparse vel dense stellato-tomentello; lamina oblongo-elliptica, interdum obovato-elliptica, 8–16 cm. longa 3.5–7 cm. lata acuta vel subabrupte acuminata, apice ipso filiformi-producto, basi obtusa vel anguste rotundata, supra saltem in statu adulto glabra opaca, subtus vix pallidior ubique pilis parvis stellatis pallidis sat dense conspersa vel interdum glabrata; inflorescentia racemosa terminalis dense multiflora ca. 17 cm. longa atque basi 5.5 cm. lata, bracteis caducis filiformibus elongatis, pedicellis erectis plerumque 2.5–3.5 cm. longis tomento coccineo stellato adpresso dense obtectis; calyx campanulatus 1.5 cm. longus basi rotundatus tomento aurantiaco-coccineo stellato densissime obtectus, lobis late ovatis obtusis ca. 5 mm. longis; petala pallide lutea anguste oblonga obtusa breviter e calyce exserta extus dense adpresseque stellato-tomentella; filamenta longiexserta pallida viridia, antheris 7 mm. longis.—Guate-

mala: Thickets near Nueva Linda, halfway between Retalhuleu and Champerico, Dept. Retalhuleu, alt. 120 meters, February 26, 1939, *Paul C. Standley* 66552 (type in Herb. Field Mus.).

The genus *Steriphoma*, most of whose few species are South American, has not been found previously north of Panama, in southern Darién, where, so far as I know, it has been collected but once. The Panama species, *S. macrantha* Standl., differs from the Guatemalan one in having substantially larger flowers.

Steriphoma clara is a handsome and exceptionally showy plant. I had never before seen the genus growing, and when plants were seen, distributed abundantly in thickets over the plains toward Champerico, it was assumed that they represented some species of *Combretum*, the spirelike racemes with their orange-red color having at a short distance almost the same appearance as those of *Combretum Cacoucia*, except for their lighter and brighter coloring.

SAXIFRAGACEAE

Jamesia americana Torr. & Gray, Fl. N. Amer. 1: 593. 1840.

In the United States this handsome shrub has a wide range, from New Mexico and Arizona northward to Wyoming, but no Mexican specimens were found when manuscript was prepared for the *Trees and Shrubs of Mexico*. A single Mexican collection, altogether typical, has come to hand recently: Salto Canyon, Babicora, Chihuahua, July, 1937, *Harde LeSueur* 1265.

LEGUMINOSAE

Astragalus Gentryi Standl., sp. nov.—Herba ut videtur annua prostrata e basi laxe ramosa, caulibus gracilibus ad anthesin ca. 15 cm. longis sparse pilis albis brevibus rigidulis adpressis strigillosis, internodiis paucis brevibus vel elongatis; stipulae ca. 3 mm. longae e basi anguste triangulari longiattenuatae suberectae virides albomarginatae; folia parva ca. 1 cm. longe petiolata, rhachi ca. 2.5 cm. longa sparse adpresso-pilosa, foliolis subremotis ca. 15 crassiusculis brevissime petiolulatis ovalibus vel obovato-ovalibus 3–6 mm. longis 2.5–3.5 mm. latis apice late breviter emarginatis, basi rotundatis vel cuneato-obtusis, supra subglaucescentibus glabris, subtus concoloribus sparse pilis brevibus albis strigillosis; racemi axillares graciliter usque 6.5 cm. longe pedunculati laxi 1–2 cm. longi ca. 8-flori, pedicellis vix ultra 1 mm. longis, bracteis lineari-subulatis pedicellis vix longioribus; calyx tubulosus extus dense albo-strigosus, tubo ca. 4 mm. longo basi acutiusculo vel obtuso atque paullo obliquo

1.5 mm. lato, dentibus subaequalibus 1–1.5 mm. longis lineari-subulatis erectis; corolla ut videtur intense violacea ca. 8 mm. longa, vexillo extus glabro angulo fere recto refracto.—Mexico: San Bernardino, Río Mayo, Sonora, in an arroyo among rocks, February, 1935, *Howard Scott Gentry* xo (type in Herb. Field Mus.).

Brongniartia Rozynskii Standl., sp. nov.—Frutex, ramulis gracilibus dense foliatis viridescentibus subteretibus puberulis vel pilis brevissimis subsparse strigillosis, internodiis brevibus; stipulae caducae membranaceae viridescentes ovatae vel lanceolato-ovatae acutae vel acuminatae sparse strigillosae; folia parva 6–8 cm. longa breviter petiolata, rhachi gracillima puberula vel strigillosa, foliolis breviter petiolulatis ca. 21 anguste oblongis 4–8 mm. longis plerumque 2–2.5 mm. latis, apice rotundatis atque apiculato-mucronatis, basi obtusis, utrinque strigillosis, costa supra impressa, nervis venisque utrinque prominulo-reticulatis, marginibus subrevolutis; flores axillares singuli, pedunculis filiformibus 1.5–2 cm. longis vel paullo ultra sparse adpresso-pilosulis; bracteolae 8 mm. longae membracaceae ovatae acutae virides ciliatae sed aliter glabrae caducae, basi rotundatae vel subcordatae; calyx 1 cm. longus extus glaber, tubo late campanulato basi acutiusculo, lobis tubo paullo longioribus lanceolatis longe attenuatis ciliatis.—Mexico: Region of Jaumave, Tamaulipas, in 1932, *H. W. von Rozynski* 524 (type in Herb. Field Mus.).

Brongniartia tenuifolia Standl., sp. nov.—Frutex sparse ramosus 1–2-metralis glaberrimus, ramis gracilibus sed rigidis, vetustioribus sordido-brunnescentibus, novellis stramineis vel viridibus subteretibus, internodiis elongatis; stipulae persistentes crasse coriaceae oblique lateque triangulari-ovatae vel ovali-ovatae 1.5–2 cm. longae atque fere aequilatae apice rotundatae vel obtusae et apiculatae palmatinerviae reticulato-venosae; folia magna usque 22 cm. longa et ultra breviter petiolata, rhachi gracili sed rigidiuscula, petiolulis plerumque ca. 3 mm. longis; foliola ca. 23 anguste oblonga vel oblanceolato-oblonga 2–3.5 cm. longa 4–6 mm. lata, apice acuta vel subobtusa et longe spinuloso-mucronata, basi acuta vel attenuata, glaucescenti-viridia, costa utrinque prominula, venis utrinque prominulis atque arcte reticulatis; flores axillares singuli, pedunculis fructiferis 3.5–4 cm. longis erectis rigidis; calyx perfectus non visus, tubo ut videtur late campanulato; legumen glabrum, ovulis ut videtur ca. 3, ca. 4 cm. longum atque 13 mm. latum, basi angustatum atque stipitatum, apice subacutum et breviter rostratum; semina late ovalia subcompressa laevia viridescentia 7 mm. longa.—Mexico:

Movas, Río Yaqui, Sonora, on open hills, April 28, 1937, *Howard Scott Gentry* 3046 (type in Herb. Field Mus.).

The flowers are described as yellow, but none are present on the type specimen. The species is a well marked one, noteworthy for the large, leathery, persistent stipules, and for the numerous narrow, rigid, spine-tipped leaflets, which in form simulate leaves of the genus *Jacquinia*.

Clitoria velutina Standl., sp. nov.—Frutex 0.6–1.5 m. altus, ramis crassiusculis teretibus ubique dense breviter patenti-pilosis, sat dense foliatis; folia modica longipetiolata trifoliolata, rhachi ca. 1.5 cm. longa dense patenti-pilosa; stipulae viridescentes 7–8 mm. longae attenuatae striatae pilosae, stipellis conformibus; foliola membranacea 4 mm. longe petiolulata lanceolato-oblonga vel ovato-oblonga plerumque 6–7 cm. longa atque 2–3 cm. lata, lateralia paullo minora, acuminata vel longiacuminata, basi rotundata atque interdum subemarginata, supra viridia fere omnino glabra, venulis arctissime reticulatis perspicuis prominulis, subtus pallidiora ubique dense pilis longiusculis velutino-pilosa, nervis lateralibus utroque latere ca. 9 obliquis angulo semirecto vel angustiore adscendentibus; inflorescentiae axillares racemosae capituliformes pauciflorae foliis duplo breviores vel interdum paullo longiores, rhachi dense pilosa, floribus breviter pedicellatis, bracteis bracteolisque stipulis similibus sed longioribus; calyx 13 mm. longus tubuloso-campanulatus ore 5 mm. latus dense pilis longis mollibus albidis patentibus pilosus, lobis erectis deltoideo-ovatis 3 mm. longis acuminatis viridescentibus; vexillum 2.5 cm. longum 12 mm. latum emarginatum extus breviter sparseque pilosum; legumen 4 cm. longum 7 mm. latum sessile glabrum subobtusum et rostrato-apiculatum, basi angustatum.—Panama: In savanna, Boquete, Prov. Chiriquí, alt. 1,500 meters, June 26, 1938, *Mrs. M. E. Davidson* 784 (type in Herb. Field Mus.).

"Flower white, the center streaked with dark red." Outstanding among the erect, shrubby species because of the abundant, soft, velvety pubescence covering most parts of the plant.

Crotalaria sonorensis Standl., sp. nov.—Herbacea vel suffruticosa metralis ramosa, ramis crassiusculis teretibus ubique dense adpresso-pilosis, internodiis elongatis; folia modica, petiolo 3–6 cm. longo crassiusculo dense sericeo; foliola 3 crasse membranacea brevissime petiolulata subaequalia oblonga vel elliptico-oblonga 2.5–7 cm. longa 0.7–2.7 cm. lata obtusa vel interdum acuta, basi vulgo cuneato-acuta vel subobtusa, supra viridia sed sat dense

sericea, subtus vix pallidiora densius sericea; racemi axillares et terminales ut videtur remote multiflori pedunculo incluso usque 35 cm. longi, rhachi sat dense pilis brevibus adpressis vel subpatentibus pilosa striata, bracteis lineari-filiformibus viridibus 3–4 mm. longis persistentibus patentibus, pedicellis fructiferis ca. 5 mm. longis superne incrassatis dense adpresso-pilosis; calyx sub fructu persistens ca. 8 mm. longus extus dense sericeus, tubo late campanulato brevi, lobis acutis vel longiacuminatis valde inaequalibus tubo plus quam duplo longioribus; legumen in sectione longitudinali obovato-oblongum 1.5–2 cm. longum 8 mm. latum, apice late rotundatum atque longirostratum, basi obtusum et breviter stipitatum, ubique densissime pilis brevibus pallidis arcte adpressis sericeum.—Mexico: Quirocoba, Río Fuerte, Sonora, on oak slope, October 22, 1936, *Howard Scott Gentry* 2948 (type in Herb. Field Mus.).

In Senn's recent monograph of the North American species of *Crotalaria* (Rhodora 41: 317. 1939) this Sonoran plant seems to run at once to *Crotalaria vitellina* Ker, var. *Schippii* Senn, of southern Mexico and British Honduras. In the quality of its pubescence, however, as well as in other respects it appears to be sufficiently distinct specifically from all forms of the widespread *C. vitellina*.

Dalea Astragalopsis Standl., sp. nov.—Herba perennis ut videtur erecta caespitosa ca. 50 cm. alta, caulibus numerosis gracilibus pauciramosis inferne ferrugineis subteretibus dense adpresso-pilosis, internodiis saepe foliis longioribus; folia 2–3.5 cm. longa breviter petiolata, foliolis approximatis patentibus vel subreflexis; stipulae filiformes ca. 4 mm. longae; foliola ca. 31 oblonga 2.5–6 mm. longa ca. 1.5 mm. lata, apice obtusissima vel leviter emarginata, basi angustata, utrinque sparse glanduloso-punctata et pilis laxis subadpressis vel fere patentibus gracillimis mollibus pilosa, marginibus saepe plus minusve revolutis; pedunculi axillares atque terminales 4.5–9 cm. longi, floribus spicatis arcte sessilibus, spicis densissime multifloris subglobosis vel saepius ovalibus 7–12 mm. longis 7 mm. latis, bracteis ovato-orbicularibus 2–2.5 mm. longis abrupte caudato-acuminatis adpressis ubique longipilosis grosse glanduloso-punctatis; calyx extus prope basin fere glaber, superne praesertim ad dentes pilosus, tubo pallido 2 mm. longo, dentibus inaequalibus 1–1.5 mm. longis subulatis erectis; petala laete caerulea; stamina 9, filamentis longiexsertis.—Mexico: Sierra Canelo, Río Mayo, Chihuahua, growing in scattered clumps on open pine slopes, August 26, 1936, *Howard Scott Gentry* 2479 (type in Herb. Field Mus.).

Dalea Gentryi Standl., sp. nov.—Herba vel suffrutex perennis(?) ramosus, ramis gracillimis striatis sparse minute puberulis vel fere glabris, sparse hinc inde rubido-glandulosis, internodiis saepe foliis longioribus; folia 2–3.5 cm. longa fere sessilia, rhachi sparse minute pilosula, foliolis approximatis, stipulis minutis subulatis; foliola ca. 23 anguste oblonga 5–9 mm. longa 2 mm. lata, apice late rotundata atque saepe leviter emarginata, basi obtusa, supra glabra eglandulosa, subtus sparse obscure pilosula vel ferre omnino glabra sparse glanduloso-punctata; pedunculi terminales et axillares usque 6 cm. longi puberuli, floribus spicatis, spicis 1.5–3 cm. longis basi ca. 6 mm. crassis, sursum sensim attenuatis, densissime multifloris, bracteis lanceolatis subulato-acuminatis dense breviter pilosis erectis; calyx late campanulatus 2–2.5 mm. longus dense breviterque pilosus, dentibus inaequalibus viridibus tubo paullo brevioribus erectis; petala omnia conformia alba angusta 4–5 mm. longa apice anguste rotundata; stamina petalis subaequilonga.—Mexico: Arroyo Hondo, Sierra Charuco, Chihuahua, in canyon bottom among pines, September 12, 1935, *Howard Scott Gentry* 1809 (type in Herb. Field Mus.).

This plant is referable to the group of *Dalea* separated by Rydberg as the genus *Thornbera*. There it seems to be related to *Dalea albiflora* Gray, a widely distributed species of northern Mexico, Arizona, and New Mexico, which differs in its much more abundant pubescence as well as in its thicker and blunt, rather than long-attenuate, flower spikes.

Indigofera macilenta Standl., sp. nov.—Suffrutex 60 cm. altus sparse ut videtur ramosus, ramis gracillimis sparse foliatis sparse vel dense albido-strigosis, internodiis elongatis; stipulae filiformes minutae; folia parva petiolata, rhachi usque 1 cm. longa strigosa; foliola vulgo 5, interdum 3, membranacea, lateralia breviter petiolulata, terminalia usque 8 mm. longe petiolulata, lanceolato-oblonga usque subovalia 7–15 mm. longa 3–5 mm. lata obtusa vel acuta, interdum subemarginata, mucronulata, basi obtusa vel anguste rotundata, prope vel paullo infra medium latissima, supra subsparse adpresso-pilosa, subtus dense strigosa; racemi axillares pedunculo longissimo incluso usque 15 cm. longi, laxe pauci- vel multiflori, parte florifera ad 3 cm. longa apicem versus longe attenuata, bracteis calyci aequilongis vel eo duplo brevioribus, pedicellis vix ultra 1 mm. longis; calyx 2–2.2 mm. longus dense strigosus fere ad basin partitus, segmentis lineari-subulatis erectis; corolla 5–6 mm. longa, vexillo extus sparse adpresso-piloso; ovarium sparse strigosum lineare longirostratum.—Mexico: Guasaremos, Río Mayo, Chi-

huahua, on oak hills, July 27, 1936, *Howard Scott Gentry* 2335 (type in Herb. Field Mus.).

"Flowers orange-red, the banner faint yellow aurora at the base; wings with an irregular touch of purple; keel white to lavender."

Inga subvestita Standl., sp. nov.—Arbor parva, ramulis brevibus subgracilibus nodosis, novellis dense pilis longis patentibus sordido-brunneis hispidis; folia parva 4–6-foliolata breviter petiolata, foliolis 10–13 mm. distantibus, petiolo dense hispido late alato, rhachi inter foliola late alata 3–4 mm. lata; foliola membranacea oblongo-obovata vel elliptico-oblonga, superiora 5–9 cm. longa et 2–4 cm. lata, inferiora multo minora, omnia acuta vel acuminata, rare obtusa, basi oblique cuneato-acuta vel subobtusa, supra vix lucida sparse pilis aureo-brunneis patentibus hispida, longiciliata, subtus concoloria paullo densius hispida; flores spicati, spicis axillaribus vel e nodis defoliatis nascentibus laxe multifloris vel paucifloris 2–3.5 cm. longe pedunculatis, ca. 3.5 cm. longis, floribus sessilibus, rhachi dense brunneo-hispida, bracteis viridescentibus lineari-subulatis 2–3 mm. longis persistentibus, post anthesin patentibus vel subreflexis; calyx ca. 3 mm. longus subsparse pilis longis rufidulis patentibus hispidus, tubo angusto subfusiformi, dentibus tubo fere duplo brevioribus lanceolato-subulatis attenuatis erectis; corolla striata subsparse hispida ca. 12 mm. longa, lobis suberectis ovatis acutis 2.5 mm. longis; stamina ca. 2.5 cm. longa.—Guatemala: In virgin forest above Finca Transvaal, Alta Verapaz, alt. 600 meters, March 15, 1939, *C. L. Wilson* 315 (type in Herb. Field Mus.).

Unusual in the genus because of the small leaflets and the abundant pubescence of long, spreading, golden brown hairs found on almost every part.

Mimosa callithrix Standl., sp. nov.—Frutex bimetralis, ramis gracilibus striato-angulatis subdense puberulis aculeis paucis remotis recurvis 1.5–2 mm. longis armatis; stipulae filiformes 5 mm. longae et ultra puberulae; folia modica longipetiolata, rhachi 3.5–7 cm. longa gracillima sulcata sparse puberula aculeolis paucis minutis recurvis armata; pinnae 3–4-jugae, rhachi 2.5–4.5 cm. longa minute puberula inermi; foliola 6–11-juga oblonga vel anguste oblonga 6–12 mm. longa 2–3 mm. lata obtusa et breviter apiculata, basi valde obliqua, brevissime petiolulata, binervia, in statu juvenili sparse breviter adpresso-pilosa, cito glabrata; flores spicati, spicis axillaribus ad nodos geminatis ca. 7.5 cm. longis et 2 cm. longe pedunculatis, laxe multifloris, floribus sessilibus vel subsessilibus, rhachi dense sordido-

puberula, bracteis minutis; calyx late campanulatus 1.5 mm. longus dense breviter pilosus, dentibus brevissimis; corolla dense puberula 3 mm. longa, lobis ovatis acutis vel acuminatis; stamina numerosa lobis corollae dupla ca. 8 mm. longa.—Mexico: Sierra Charuco, Río Fuerte, Chihuahua, along stream banks in a canyon, alt. 1,500 meters, July 23, 1935, *Howard Scott Gentry* 1531 (type in Herb. Field Mus.).

Mimosa Velloziana Mart.—A widely distributed, unpleasantly armed, woody vine of wide distribution in tropical America, this species is reported by Britton and Rose (N. Amer. Fl. 23: 150. 1928) to extend only as far north as Panama. It has been collected recently by the writer on the Pacific coast of Guatemala, and may be recorded definitely also from Mexico: Fortuño, Río Coatzacoalcos, Veracruz, near sea level, March, 1937, *Llewelyn Williams* 8875. The vernacular name is reported from Veracruz as "rasca petate."

Phaseolus amabilis Standl., sp. nov.—Herba volubilis ramosa, caulibus gracillimis glabris viridibus, internodiis plerumque valde elongatis; stipulae 5–6 mm. longae ovatae vel oblongo-lanceolatae acutae multinerviae persistentes erectae; folia parva longipetiolata, petiolo glabro, petiolulis 2–7 mm. longis; foliola 1.5–4 cm. longa 1–2 cm. lata, plerumque hastato-trilobata, rarius integra, lobo terminali acuto vel acutiusculo lanceolato-oblongo, lobis basalibus apice rotundatis, supra sparse minute puberula, subtus fere concoloria minute sparse puberula vel fere glabra; pedunculi usque 5 cm. longi gracillimi glabri tortuosi 1–3-flori, pedicellis glabris usque 4 mm. longis; calyx glaber 5–6 mm. longus, tubo late campanulato pallido, lobis inaequalibus lanceolato-attenuatis tubo longioribus, posticis anterioribus bene longioribus; corolla purpurea glabra usque 2.5 cm. longa, petalis omnibus inferne quasi in tubum fere 1 cm. longum cohaerentibus.—Mexico: Guasaremos, Río Mayo, Chihuahua, growing on mossy, moist bank with *Achimenes grandiflora*, oak-pine slope, August 26, 1936, *Howard Scott Gentry* 2471 (type in Herb. Field Mus.).

This must be an unusually handsome plant for the genus, because of its delicate habit, neatly lobed leaflets, and exceptionally large, brightly colored flowers.

Phaseolus Gentryi Standl., sp. nov.—Herba volubilis, caule gracili subtereti sparse pilis brunneis brevibus retrorso-piloso, internodiis plerumque foliis longioribus; stipulae multinerviae ca. 4 mm. longae deltoideo-lanceolatae acuminatae erectae persistentes; folia

modica longipetiolata, petiolo striato-angulato sparse retrorso-piloso, rhachi 1 cm. longa, petiolulis 2–3 mm. longis dense brunneo-pilosis; foliola integra subaequalia, terminali paullo latiore ovato, lateralibus oblique rhombico-ovatis, omnia acuta usque late obtusa, basi anguste rotundata vel late obliquo-rotundata, supra viridia subsparse breviter adpresso-pilosa, pilis basi bulboso-dilatatis, subtus fere concoloria, sparse pilosa; racemi fructiferi axillares singuli 3.5–7 cm. longe pedunculati 1–1.5 cm. tantum longi nodosi pauciflori, rhachi dense breviter brunneo-pilosa, pedicellis brevissimis incrassatis; calyx ad basin fructus plus minusve persistens sed perfectus non visus; legumen late lineare in statu adulto usque 8 cm. longum atque 7 mm. latum valde compressum, basi subacutum, apice acutum atque breviter curvo-rostratum, glabrum, late marginatum, subarcuatum.—Mexico: Batopilillas, Río Mayo, Chihuahua, in oak and grass savanna, September 8, 1936, *Howard Scott Gentry* 2615 (type in Herb. Field Mus.).

"A vine on open, rocky slope with harsh grasses; flowers lavender."

Phaseolus pachycarpus Standl., sp. nov.—Herba volubilis, caule gracillimo sparse pilis patentibus ex parte glandulosis piloso gracillimo striato-angulato vel subtereti, internodiis brevibus vel elongatis; stipulae persistentes viridescentes ca. 3 mm. longae nervosae acutae vel subobtusae; folia parva longipetiolata, petiolo gracillimo sparse piloso, rhachi 5–10 mm. longa, petiolulis ca. 2 mm. longis dense pilosis, stipellis lineari-lanceolatis viridescentibus petiolulis aequilongis; foliola membranacea subaequalia, terminali paullo majore, ovata vel rhombico-ovata 2–3.5 cm. longa 1–2 cm. lata longe sensimque attenuato-acuminata, basi subtruncata usque cuneato-rotundata, supra viridia subsparse pilis gracillimis subadpressis pilosa, venulis prominulis, subtus concoloria sparse vel dense pilis subpatentibus pilosa, glanduloso-punticulata; racemi fructiferi ca. 4 cm. longe pedunculati, pedunculo crassiusculo, rhachi nodosa 2.5–3 cm. longa crassa, pedicellis incrassatis 8 mm. longis; legumen late lineare versus apicem latissimum rectum crassum 8–12 cm. longum ca. 12 mm. latum, apice acutum atque 1 cm. longe rostratum, basin versus sensim angustatum, sessile.—Mexico: Guasaremos, Río Mayo, Chihuahua, valley margin, September 28, 1936, *Howard Scott Gentry* 2888 (type in Herb. Field Mus.).

Noteworthy for the rather large fruits, which are straight and much thicker, i.e., less compressed, than in most species of the genus.

Phaseolus pauper Standl., sp. nov.—Herba volubilis, caule insigniter gracili tereti viridescente vix ultra 1 mm. crasso sparse puberulo vel pilis brevissimis pilosulo, internodiis valde elongatis; stipulae fere 3 mm. longae striatae triangulari-oblongae acutae erectae persistentes viridescentes; folia majuscula longipetiolata membranacea laete viridia, petiolo gracillimo 4–5 cm. longo, rhachi ca. 1.5 cm. longa puberula, stipellis lineari-subulatis patentibus vel reflexis 2 mm. longis; foliola subaequalia integra, terminali ovato vel late ovato, lateralibus late rhombico-ovatis, 6–8 cm. longa 3–5 cm. lata sensim acuta vel longiacuminata, basi rotundata vel late obliquo-rotundata, e basi trinervia, utrinque sparse vel dense minuteque puberula, venulis utrinque prominulis atque laxe reticulatis; racemi axillares 6–8.5 cm. longe pedunculati laxe 3–5-flori, pedunculo gracillimo patenti-pilosulo, pedicellis gracillimis 5–7 mm. longis patenti-pilosulis, bracteis bracteolisque minutis lanceolatis vel subulatis striatis viridescentibus; calyx valde obliquus 4 mm. longus extus sparse pilosus, labio superiore lato subobtuso, segmentis 3 inferioribus superiore multo longioribus lineari-lanceolatis attenuatis; corolla ut videtur rosea ca. 1 cm. longa, vexillo extus glabro; fructus juvenilis sessilis linearis rectus attenuato-rostratus dense minute viscido-pilosulus ca. 9-ovulatus.—Mexico: Arroyo margin, San Bernardo, Río Mayo, Sonora, September 7, 1935, *Howard Scott Gentry* 1674 (type in Herb. Field Mus.).

Conspicuous characters are the large, broad, thin leaflets, the very slender stems and peduncles, and the few-flowered, lax racemes.

Phaseolus robiniiflorus Standl., sp. nov.—Herba volubilis, caule crassiusculo sparse piloso vel fere glabro tereti viridi, internodiis elongatis; folia modica membranacea, petiolo gracillimo usque 8.5 cm. longo sparse pilosulo vel fere glabro, rhachi ca. 2 cm. longa, stipellis 2–3 mm. longis nervosis viridibus patentibus lanceolato-linearibus vel subulatis, petiolulis 3 mm. longis; foliola integra subaequalia ovata vel late ovata 6–6.5 cm. longa 3–4 cm. lata, longe angusteque attenuato-acuminata, basi late rotundata vel cuneato-rotundata, ad venas nervosque sparsissime laxe pilosula; pedunculi crassiusculi curvi ad 14 cm. longi fere glabri, racemis usque 14 cm. longis densissime multifloris nodosis, pedicellis glabris 5 mm. longis, bracteis caducis striato-nervosis late ovatis acutis ca. 1 cm. longis glabris ciliolatis; calyx pallidus membranaceus ca. 4 mm. longus basi rotundatus, dentibus tubo brevioribus vel subaequilongis sed inferioribus labio superiore paullo longioribus ciliatis rotundato-ovatis; corolla ut videtur purpurea 2 cm. longa, vexillo latissimo

extus glabro hinc inde grosse glanduloso-punctato.—Mexico: Río Bonito, Chihuahua, August 25, 1936, *Harde LeSueur* 711 (type in Herb. Field Mus.).

Known, unfortunately, only from rather fragmentary and incomplete material, but apparently a valid species, marked by the long and dense, many-flowered racemes of large flowers.

Phaseolus sonorensis Standl., sp. nov.—Herba volubilis elongata ramosa, caule gracili subtereti ubique dense pilis brevibus patentibus mollibus piloso, internodiis elongatis; stipulae virides adpressae persistentes lanceolato-oblongae 3–4 mm. longae pilosae; folia inter minora 1–2.5 cm. longe petiolata crasse membranacea, petiolo crassiusculo dense patenti-piloso, rhachi ca. 1 cm. longa, petiolulis 2–3 mm. longis densissime pilosis; foliola integra subaequalia late ovata vel latissime rhombico-ovata 2.5–4 cm. longa 1.5–3.5 cm. lata acuta vel rarius obtusa, basi rotundata vel interdum subtruncata, supra in sicco cinereo-viridia sat dense pilis brevibus subpatentibus pilosa, costa nervisque elevatis, subtus fere concoloria ubique dense molliter patenti-pilosa, basi trinervia; pedunculi axillares singuli crassiusculi 5–10 cm. longi, racemis subremote multifloris 3–5 cm. longis, rhachi nodosa dense pilosa, pedicellis 5–8 mm. longis longipilosis, bracteis brevibus alabastris vix aequalibus late ovatis nervosis acutis dense pilosis deciduis; calyx latissime campanulatus ca. 3 mm. longus extus pilosus basi acutiusculus, labio superiore ovato-rotundato, labio inferiore breviter trilobo, lobis rotundato-ovatis apiculatis labio superiore bene brevioribus; corolla ut videtur purpurea 1.5 cm. longa vel ultra, vexillo lato extus glabro; legumen juvenile lineare sessile acutum glabrum, marginibus paullo incrassatis.—Mexico: Sierra Chirivo, Río Mayo, Sonora, on canyon slope, March 8, 1935, *Howard Scott Gentry* 1396 (type in Herb. Field Mus.).

"A large vine, sprawling over herbs and shrubs; abundant." The local name is given as Huirote.

Schrankia heterocarpa Standl., sp. nov.—Herba erecta(?) metralis, caule gracili striato-angulato glabro, aculeis reflexis 1.5 mm. longis sat dense armato, internodiis solemniter elongatis; stipulae filiformes 4 mm. longae; folia sparsa, petiolo gracillimo 3–5 cm. longo dense aculeolato glabro, rhachi gracillima 1.5–2.5 cm. longa inermi vel aculeis paucis brevibus munita; pinnae 3–4-jugae 2.5–4 cm. longae; foliola ca. 11-juga ca. 7 mm. longa et 1.5 mm. lata glabra sed sparse ciliata obtusissima 1-nervia, venulis obsoletis; capitula

singula laxe pauciflora, pedunculo 1 cm. longo glabro aculeolis paucis minutis vulgo armato, floribus arcte sessilibus; calyx late campanulatus denticulatus 0.5 mm. longus; corolla glabra angusta 2.2 mm. longa; stamina corolla duplo longiora; legumen immaturum breviter stipitatum lineare valde compressum 3.5 cm. longum 3 mm. latum glabrum, apice breviter attenuato-rostratum, valvis inermibus vel setis paucis longis conspersis, marginibus sparse aculeolis recurvis armatis; ovula ca. 8.—Mexico: In canyon, La Cienaguita, Río Mayo, Chihuahua, September 10, 1936, *Howard Scott Gentry* 2635 (type in Herb. Field Mus.).

"Growing among oaks, on hill slope with a rank growth of herbs. Flowers pink." In the account of this genus (under the name *Leptoglottis*) by Britton and Rose, the present plant would run in the key to *S. Roemeriana* (Scheele) Blankinship, of southern Texas, which has smaller leaflets, longer peduncles, and essentially different fruit.

GERANIACEAE

Geranium charucanum Standl., sp. nov.—Herba ramosa 50 cm. alta vel ultra, caulibus gracilibus sparse vel dense pilis brevibus pallidis strigosis, internodiis solemniter elongatis; stipulae lanceolatae ca. 6 mm. longae erectae viridescentes strigosae; folia basalia non visa, caulina longipetiolata vel superiora sessilia vel subsessilia, petiolo usque 8 cm. longo gracillimo strigoso; lamina ad basin trisecta, segmentis lateralibus interdum bipartitis, omnibus linearibus vel lanceolato-linearibus 3–5 cm. longis longiattenuatis, basi angustatis, laciniato-lobatis, interdum tantum remote inciso-dentatis, supra sparse strigillosis, subtus ad nervos sparse strigosis; pedunculi biflori usque 10 cm. longi gracillimi, bracteis lineari-lanceolatis 5–6 mm. longis, pedicellis gracilibus 3–5 cm. longis dense griseo-strigosis; sepala lanceolato-ovata 10–11 mm. longa acuminata apice appendice 2–2.5 mm. longo subulato aucta, dense strigosa, pallido-marginata; petala ut videtur laete purpurea rotundato-obovata 18 mm. longa atque 12 mm. lata, apice late rotundata et subemarginata, glabra sed prope basin longiciliata; filamenta inferne sparse pilosa, antheris 2 mm. longis.—Mexico: Sierra Charuco, Río Fuerte, Chihuahua, riparian, September 13, 1935, *Howard Scott Gentry* 1813 (type in Herb. Field Mus.).

"Scattered and infrequent. Flowers purple." In general appearance the plant, especially because of its large and showy flowers, bears much resemblance to some species of the malvaceous genus *Callirrhoe*.

ERYTHROXYLACEAE

Erythroxylon fiscalense Standl., sp. nov.—Frutex 1.5–3 m. altus dense ramosus, ramis subteretibus fusco-ferrugineis rigidis vel junioribus plus minusve tortuosis, brevioribus saepe spiniformibus, lenticellis numerosis pallidis parvis subelevatis conspersis, glabris, internodiis brevibus vel paullo elongatis; stipulae ovatae acutae glabrae persistentes ca. 2 mm. longae; folia parva breviter petiolata subcoriacea glabra, petiolo gracili tereti ca. 2 mm. longo; lamina orbicularis vel obovato-rotundata 6–12 mm. longa et fere aequilata apice late rotundata, basi late obtusa, supra in sicco viridis, costa nervisque non elevatis, subtus paullo pallidior, costa gracili prominente, nervis venisque obsoletis vel obscuris; flores non visi.—Guatemala: Dry, rocky thicket, Fiscal, Dept. Guatemala, alt. about 1,100 meters, December 12, 1938, *Paul C. Standley* 59568 (type in Herb. Field Mus.).

Although the specimens are sterile, it is evident that they represent a species quite different from any other known in Central America. The leaves are smaller than those of other Central American species, and are distinguished also by their orbicular or rounded-obovate outline.

EUPHORBIACEAE

Acalypha anadenia Standl., sp. nov.—Ut videtur herbacea, ramosa, decumbens(?), caulibus gracilibus pallide viridibus dense incurvo-pilosulis atque sparse longipilosis, pilis tenerrimis usque 5 mm. longis patentibus, internodiis elongatis; stipulae persistentes lineari-subulatae viridescentes ca. 2 mm. longae; folia inter minora longipetiolata membranacea, petiolo gracillimo 1.5–3 cm. longo dense incurvo-pilosulo; lamina lanceolato-ovata 3–8 cm. longa 1.5–3.5 cm. lata acuminata vel sensim longiacuminata, basi late cuneato-obtusa vel cuneato-rotundata, fere ad basin crenata, supra viridis, ad venas sparse incurvo-pilosula, aliter glabra, subtus fere concolor puncticulato-papillosa, ubique sat dense pilis brevibus saepe incurvis pilosula, e basi palmatim 5-nervia, costa utroque latere nervos ca. 3 emittente; spicae terminales androgynae pedunculatae ca. 2.5 cm. longae atque 1.5 cm. latae, lateralibus superioribus femineis subglobosis vix ultra 1 cm. longis usque 1.5 cm. longe pedunculatis, masculis axillaribus pedunculatis gracilibus usque 4 cm. longis vix 1.5 mm. crassis; axis spicae femineae saepe supra bracteam summam capillaceo-productus et florem femineam rudimentariam gerens; bracteae femineae 1–1.5 cm. longae ultra medium partitae, laciniis rigidis setaceo-acuminatis albido-pilosis et sparse

glanduloso-ciliatis; ovarium sparse pilosum; semina pallide brunnescentia minutissime puncticulata fere laevia.—Mexico: Rocky headland in front of Hotel Mirador, Acapulco, Guerrero, alt. 90–120 meters, August 21, 1935, *L. H. MacDaniels* 150 (type in Herb. Field Mus.). Rocky headlands between Acapulco and Pie de la Cuesta, Guerrero, alt. 45–60 meters, August 24, 1935, *MacDaniels* 214.

The relationship appears to be with *A. aristata* HBK., a species of Colombia and Panama.

Acalypha Gentryi Standl., sp. nov.—Frutex 2–3-metralis, ramulis gracilibus teretibus subferrugineis, novellis fulvido-tomentulosis vel puberulis atque pilosulis, internodiis elongatis; stipulae lineari-attenuatae usque 10 mm. longae hispidulae deciduae; folia mediocria longipetiolata membranacea, petiolo gracillimo 1.5–4.5 cm. longo dense minute adpresso-pilosulo et sparse hirtello; lamina late ovata vel rotundato-ovata 6–10 cm. longa 4–7 cm. lata abrupte breviterque acuminata, basi late rotundata vel saepe subcordata, supra viridis ubique minutissime albido-puncticulata, hinc inde praesertim ad venas costamque breviter hirtella, subtus fere concolor sat dense molliter pilosula vel serius glabrata, e basi 5-nervia, nervis lateralibus utroque latere ca. 7 angulo semirecto adscendentibus fere rectis, toto margine fere ad basin crenato; flores ut videtur monoeci, spicis femineis tantum visis terminalibus solitariis vel aggregatis breviter pedunculatis pedunculo incluso usque 9 cm. longis densifloris, rhachi dense puberula atque hispidula, bracteis bene evolutis non visis; styli graciles breves 4–6-lacinulati purpurei. —Mexico: El Limón, Río Mayo, Chihuahua, canyon stream, alt. 900 meters, July 25, 1935, *Howard Scott Gentry* 1540 (type in Herb. Field Mus.).

The available material, unfortunately, is in very young flowering state, so that it is impossible to describe the important details of the pistillate bracts.

Croton Cardenasii Standl., sp. nov.—Frutex 80 cm. altus, ramis novellis crassiusculis densissime pilis adpressis stellatis sessilibus albidis obtectis, internodiis elongatis interdum foliis longioribus; stipulae minutae vel obsoletae; folia inter minora longipetiolata herbacea, petiolo crassiusculo 1.5–3 cm. longo dense adpresso-stellato-piloso apice glandulis 2 magnis depressis onusto; lamina oblongo-ovata vel lanceolato-oblonga 7–9 cm. longa 3–4.5 cm. lata acuta vel acuminata, basi rotundata, integra, supra viridis glaberrima, subtus pallida ochracea densissime pilis brevibus mollibus

stellatis tomentoso-pilosa, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 10–12 angulo semirecto adscendentibus; flores monoeci, racemis terminalibus 4.5–9 cm. longis remote multifloris, sessilibus vel subsessilibus, rhachi dense stellato-tomentosa, pedicellis vix ultra 1 mm. longis; flores feminei pauci vel numerosi prope basin racemi interdum cum masculis inserti, sepalis 5 ellipticoovatis vix 2 mm. longis extus dense stellato-tomentosis subobtusis ut videtur vix accrescentibus, stylis semel dichotomis; flores masculi in alabastro globosi ca. 1.5 mm. diam. extus dense stellato-tomentosi; stamina ca. 10; capsula immatura parva densissime stellato-tomentosa.—Bolivia: Roboré, alt. 416 meters, in open pampa, October, 1934, *M. Cárdenas* 3018 (type in Herb. Field Mus.).

Croton charaguensis Standl., sp. nov.—Frutex 2-metralis, ramis vetustioribus ferrugineis, novellis densissime pilis stellatis patentibus mollibus pilosis, sat dense foliatis; stipulae lineari-attenuatae 6–8 mm. longae glanduloso-serrulatae persistentes; folia inter minora longipetiolata herbacea, petiolo crassiusculo 2–3 cm. longo densissime molliter stellato-piloso; lamina ovato-oblonga vel lanceolato-oblonga 6–8 cm. longa 2–3.5 cm. lata, anguste attenuato-acuminata, basi anguste rotundata, interdum brevissime cordata, arcte minute serrato-dentata, dentibus salientibus, utrinque dense (subtus densius) pilis mollibus inaequiradiatis patentibus stellato-pilosa, e basi 5-nervia, nervo medio utroque latere supra basin nervos ca. 5 emittente; flores monoeci, racemis terminalibus sessilibus sat dense multifloris 5–8 cm. longis ca. 1.5 cm. latis, pedicellis gracilibus 3–5 mm. longis; flores feminei pauci in quoque racemo 1–2, sepalis 5 ellipticoovalibus 4–5 mm. longis obtusis extus dense stellato-tomentosis; styli bis dichotomi sparse pilosi; flores masculi numerosissimi in alabastro globosi fere 4 mm. diam. densissime stellato-pilosi, sepalis 5 late ovatis obtusis, staminibus numerosissimis, 45 et ultra, antheris glabris, filamentis inferne longipilosis; capsula immatura 1 cm. diam., densissime pilis laxis mollibus longissimis ochraceis pilosa.—Bolivia: Rocky slopes, Quebrada de Charagua, region of the Oriente, alt. 850 meters, August, 1934, *M. Cárdenas* 2779 (type in Herb. Field Mus.).

Noteworthy for the short, dense racemes of exceptionally large flowers, and for the very long and soft hairs that cover densely the young capsules.

Croton Ortegae Standl., sp. nov.—Frutex, ramis vetustioribus fusco-ferrugineis gracilibus, novellis dense pilis minutis adpressis stellato-pilosulis; stipulae filiformes 2–3 mm. longae integrae deci-

duae; folia parva breviter petiolata membranacea, petiolo gracili 5–8 mm. longo minute dense adpresse stellato-pilosulo, apice glandulis 2 stipitatis parvis flavidis patentibus onusto; lamina oblongo-lanceolata 4–6 cm. longa 0.8–1.5 cm. lata apicem acutum vel subobtusum versus paullo angustata, basi obtusa vel acutiuscula, integra, utrinque minute sparse stellato-puberula, supra viridis, subtus paullo pallidior, penninervia; flores dioeci(?), femineis solitariis vel in racemos breves paucifloros capituliformes aggregatis, pedicellis usque 3 mm. longis, sepalis 5 valde inaequalibus foliaceis viridibus rotundato-ovatis subacutis ca. 6 mm. longis extus sat dense minute stellato-pilosulis, stylis semel dichotomis; capsula 4–5 mm. longa dense minute stellato-pilosula.—Mexico: Sinaloa, without definite locality, in 1933, *Jesús G. Ortega* 7019 (type in Herb. Field Mus.).

The form of the leaves suggests those of *Sida rhombifolia*. The species is a well marked one because of the small, narrow leaves with curious slender-stipitate glands at the apex of the petiole. On the type material no staminate flowers are present, and it is to be assumed that the plant is dioecious.

Croton roborensis Standl., sp. nov.—Frutex 80 cm. altus, ramis vetustioribus fusco-ferrugineis teretibus, novellis sat dense foliatis ubique densissime stellato-pilosis et velutinis, radiis basalibus pilorum brevibus, terminalibus longis mollibus; stipulae virides lineari-lanceolatae 5–6 mm. longae subobtusae caducae; folia inter minora petiolata herbacea, petiolo 8–15 mm. longo dense ut ramis stellato-piloso; lamina oblongo-ovata 5–8 cm. longa 2–3.5 cm. lata apicem obtusum versus angustata, basi anguste rotundata atque breviter cordata, in toto margine grosse crenato-serrata, supra viridis subdense pilis parvis subaequiradiatis conspersa, subtus paullo pallidior dense molliter stellato-pilosa, e basi 5-nervia, nervo medio utroque latere supra basin nervos 3–4 emittente; flores monoeci, racemis terminalibus dense multifloris 3–5 cm. longis, pedicellis usque 2.5 mm. longis; flores feminei 3–8, sepalis 5 viridibus elliptico-ovatis ca. 4 mm. longis subacutis dense breviter stellato-velutinis, petalis obsoletis, stylis semel bipartitis sparse pilosis; flores masculi densissime aggregati numerosissimi in alabastro globosi ca. 1.6 mm. diam. extus dense stellato-pilosuli, sepalis 5 tenuibus pallidis; stamina ca. 8 longiexsertae glabrae; capsula in statu juvenili densissime pilis albidis pilosa.—Bolivia: "Roboré of Chiquitos (Santa Cruz)," alt. 416 meters, in dry soil, October, 1934, *M. Cárdenas* 2952 (type in Herb. Field Mus.).

A low shrub with small, green, narrowly ovate, coarsely crenate-serrate leaves having abundant, soft pubescence, and with short and very dense racemes.

Jatropha fremontioides Standl., sp. nov.—Frutex metralis, ramis crassis flexuosis nodosisque subteretibus rubro-ferrugineis dense cinereo-puberulis, internodiis brevibus; folia parva breviter petiolata crasse membranacea, petiolo 2–5 mm. longo dense breviter pilosulo; lamina ambitu late ovata usque subreniformis 1.5–3 cm. longa atque fere aequilata undulata vel saepius breviter triloba, lobis obtusissimis vel subrotundatis, rare acutiusculis, interdum breviter trilobis, supra viridis molliter puberula vel glabrata, subtus paullo pallidior subsparse molliter pilosula, basi cordata, sinu aperto vel fere clauso, trinervia vel subquinquenervia; cymae reductae et capituliformes pauci- vel multiflorae breviter pedunculatae, bracteis numerosis imbricatis ovatis sparse pilosulis, floribus sessilibus vel subsessilibus; sepala 3 mm. longa elliptico-oblonga obtusa fere glabra ciliolata; petala in alabastro 4 mm. longa apice rotundata extus glabra ciliata breviter coalita; capsula juvenilis ca. 8 mm. longa ellipsoidea breviter rostrata acute trigona.—Mexico: Ixtepec, Oaxaca, alt. 90 meters, August 19, 1935, *George L. Fisher* 35498 (type in Herb. Field Mus.).

Not closely related to any other species known to the writer, noteworthy for the small, densely pubescent, short-petiolate leaves, whose form suggests those of the genus *Fremontia*.

Jatropha Ortegae Standl., sp. nov.—Rami crassiusculi nodosi subochracei vel subgrisei, novellis minutissime puberulis; folia ad nodos plus minusve aggregata longipetiolata membranacea vel crasse membranacea, petiolo gracillimo 1–4.5 cm. longo sparse minute puberulo vel fere glabro; lamina oblongo-ovata usque elliptica 4–9 cm. longa 2–5 cm. lata obtusa usque acuminata, basi truncata usque obtusa, integra, margine prope basin glandulis paucis stipitatis onusto, supra viridis glabra, subtus pallida vel glaucescens microscopice puberula vel fere omnino glabra, costa gracili prominente, penninervia, nervis lateralibus utroque latere ca. 4; cymae laxae pauciflorae vel interdum tantum 1-florae petiolo aequilongae vel paullo longiores graciliter pedunculatae, ramis brevibus gracilibus minute puberulis, pedicellis interdum filiformibus usque 5 mm. longis, bracteis parvis inconspicuis lanceolatis; sepala 2–6 mm. longa lanceolata vel ovata obtusa usque attenuata extus puberula, floris feminei in statu fructifero paullo accrescentia atque basin

versus glandulis paucis stipitatis ciliata; corolla urceolata 6–7 mm. longa ca. 4 mm. lata, tubo sub limbo subcontracto, extus minute puberula vel glabrata, lobis erectis obtusissimis rotundato-ovatis vix 2 mm. longis; capsula immatura profunde triloba 13 mm. lata 8 mm. alta.—Mexico: Sinaloa, without definite locality, in 1934, *Jesús G. Ortega* 7283 (type in Herb. Field Mus.), 7413.

Marked by the long-petiolate, chiefly oblong-ovate to elliptic leaves in which the blade bears few or numerous rather large glands for some distance above the insertion of the petiole.

Jatropha platanifolia Standl., sp. nov.—Frutex, ramis crassis subteretibus nodosis, cortice brunnescente, novellis dense velutino-pilosis; folia (in statu juvenili tantum visa) longipetiolata, petiolo dense breviter velutino-piloso; lamina basi truncata vel breviter cordata fere ad medium triloba, interdum subquinqueloba, lobis ovatis longiacuminatis integris vel undulatis, utrinque dense velutino-pilosa, basi 5-nervia; flores cymosi, cymis reductis paucifloris breviter pedunculatis, pedunculo ramisque brevibus dense pilosis, bracteis parvis triangulari-lanceolatis, pedicellis brevibus crassis pilosulis; sepala 3 mm. longa in sicco subfusca oblonga vel oblanceolato-oblonga obtusa extus sparse hirtella; corolla 5–6 mm. longa extus glabra intus pilosa, petalis oblongis apice rotundatis prope basin breviter connatis.—Mexico: San Bernardo, Río Mayo, Sonora, in forest, June 26, 1935, *Howard Scott Gentry* 1449 (type in Herb. Field Mus.).

In the available material the leaves are in a very early stage of development, the blades being only 1.5–2.5 cm. long. From other related species of northwestern Mexico *J. platanifolia* is well differentiated by its deeply lobate, densely pubescent leaves.

Phyllanthus Austinii Standl., sp. nov.—Frutex gracilis 1–1.5 m. altus, interdum longior atque subscandens, ubique glaber, ramis gracillimis teretibus viridescentibus vel ochraceis, internodiis plerumque elongatis; stipulae viridescentes erectae lineari-subulatae 2.5–3 mm. longae; folia mediocria petiolata membranacea tenuia, petiolo filiformi 5–17 mm. longo; lamina ovata vel interdum lanceolato-ovata 6–10.5 cm. longa 2–5.5 cm. lata longe angusteque acuminata, basi rotundata vel late obtusa, supra intense olivacea, costa nervisque manifestis prominulis, subtus glaucescens, costa tenerrima elevata, nervis lateralibus utroque latere 5–6 obliquis angulo latiusculo adscendentibus tenerrimis arcuatis prope marginem arcuato-conjunctis, venulis subprominulis arctissime reticulatis; flores dioeci

axillares solitarii vel pauci atque fasciculati; pedicelli florum masculorum filiformes vix ultra 4 mm. longi, floribus parvis ca. 3 mm. latis; pedicelli florum femineorum capillares 2–4 cm. longi flexuosi, disco disciformi 1.5–2 mm. lato; styli 3 brevissimi recurvi; capsula obovoideo-globosa 8 mm. alta et ultra tricarinata; semina 3 pallide brunnescentia ca. 4 mm. longa ubique dense irregulariter suberoso-verrucosa.—Guatemala: Wet forest, Escoba, across the bay (west) from Puerto Barrios, Dept. Izabal, near sea level, May 3, 1939, *Paul C. Standley* 72868 (type in Herb. Field Mus.), 73012, 72968, 72951, 72981.

The species is dedicated to Mr. George B. Austin of the United Fruit Company, Puerto Barrios, to whom the writer is indebted for many courtesies and much practical assistance.

From *Phyllanthus Bartlettii* Standl., of British Honduras and Honduras, the present plant differs conspicuously in its round-based leaves. More closely related is *P. capillipes* Blake, of the same general region of Guatemala, but in that the capsules are only 3 mm. long, and the leaves are conspicuously narrower.

ICACINACEAE

Calatola venezuelana Pittier, Bol. Soc. Venez. Cienc. Nat. 4: 360. 1938.—The genus *Calatola* was proposed by the writer in 1923 (Contr. U. S. Nat. Herb. 23: 688. 1923), as consisting of two species of trees native of southern Mexico. Another species, *C. costaricensis*, was described in 1926 (Journ. Wash. Acad. Sci. 16: 416). The group was proposed with considerable mental reservation, there being some doubt as to whether it had been referred to the proper family, but at present this doubt has disappeared. Study of the wood, particularly, indicates that *Calatola* is definitely referable to the Icacinaceae, where flower structure had seemed to necessitate its reference.

What the writer has expected, however, is that some earlier name would be found for the group, especially since the known area of distribution has been so greatly extended in recent years. Since the specimens are most likely to be collected in fruiting state, when their reference to a family would be exceedingly difficult, it is probable that specimens obtained by early explorers would not be placed or described, but would be relegated to the undetermined material of a herbarium. No flowers have been seen by the writer from South America. The fruit of *Calatola* is so distinctive that once seen, it is not likely to be forgotten.

The four species of *Calatola* known at present are not too well differentiated, although it seems certain that there are at least three species in the genus. The quantity of herbarium material must be greatly increased before it is possible to decide satisfactorily the specific limits of the several forms.

Calatola mollis Standl. is known only from Mexico. *C. laevigata* Standl., described originally from Mexico, is now known also from British Honduras and Guatemala, and old fruits found by the writer on the Atlantic coast of Honduras probably are referable to the species. Of course, it is not known that they were from trees growing in Honduras, but the tree is to be expected there.

Calatola costaricensis Standl. is known from both Costa Rica and Panama. A collection of the genus from Colombia (region of Cincinnati, at 1,300–1,500 meters, *Espina & Giacometto* A146) I have referred formerly to *C. costaricensis*, but it is perhaps referable rather to *C. venezuelana*. As a matter of fact, more material is needed before it can be determined whether there are any sure characters for separating *C. venezuelana* from *C. costaricensis*. The fruits of the Colombian tree are unusually small, but not smaller than might be expected in the normal course of variation upon a single tree.

The present remarks are occasioned by the recent receipt of a specimen of the genus that extends very greatly its known area of dispersal: Peru: Shapajilla, Dept. Huánuco, at 630 meters, May 27, 1939, *Felix Woytkowski* 19; a tree about 9 meters high, with trunk diameter of 23 cm., the bark brown, thin; wood hard, whitish brown. The fruits are unusually large, about 6 cm. long, but in general the specimens agree well with Venezuelan ones, and at least for the present the Peruvian tree may be referred to *C. venezuelana*. The genus now may confidently be expected to grow in Ecuador, and perhaps also in eastern Bolivia.

RHAMNACEAE

Rhamnus pinetorum Standl., sp. nov.—Frutex metralis, ut videtur dense ramosus, ramis subteretibus nigrescentibus vel fusco-ferrugineis, novellis dense pilis mollibus patentibus breviusculis pilosis, internodiis brevibus; stipulae subulatae 2–3 mm. longae pilosulae; folia modica breviter petiolata crasse membranacea, petiolo 3–5 mm. longo crassiusculo dense piloso; lamina anguste oblonga vel lanceolato-oblonga 3–5.5 cm. longa 1.2–2 cm. lata apicem obtusum versus paullo angustata, basi rotundata vel obtusa, margine interdum revoluto fere integro vel remote adpresso-

serrulato, supra viridis pilis patentibus molliter sparse vel dense pilosa, subtus paullo pallidior sat dense pilis patentibus molliter pilosa vel serius glabrata, costa gracili prominente, nervis lateralibus utroque latere ca. 7 angulo semirecto adscendentibus prominentibus; flores axillares fasciculati pauci, pedicellis gracilibus 4–7 mm. longis patule pilosis; sepala 2 mm. longa patule pilosula ovata vel oblongo-ovata obtusa; fructus tricoccus glaber subglobosus ca. 7 mm. longus et aequilatus apice subdepressus obscure trilobus.—Mexico: Sierra Canelo, Río Mayo, Chihuahua, in shaded pine-cypress canyon, August 31, 1936, *Howard Scott Gentry* 2540 (type in Herb. Field Mus.). Mojarachic, Chihuahua, August, 1938, *I. Knobloch* 5288. Above Basaseachic Falls, Chihuahua, July, 1936, *Harde LeSueur* 777.

Related to *R. Pringlei* Rose, of Oaxaca and Veracruz, which is conspicuously different in its small, short, relatively much broader leaves.

MALVACEAE

Bastardia violacea Standl., sp. nov.—Suffrutex ramosus, ramis gracilibus teretibus, novellis densissime minuteque stellato-tomentellis, internodiis brevibus vel paullo elongatis; stipulae caducae; folia parva petiolata membranacea, petiolo gracili 3–7 mm. longo stellato-tomentello; lamina ovata vel lanceolato-ovata 1.5–2.5 cm. longa 1–2 cm. lata longe attenuato-acuminata, basi breviter cordata, lobis basalibus late rotundatis, arcte adpresso-crenata, utrinque densissime minute molliter stellato-tomentosa, basi 7-nervia; flores plerumque singuli atque axillares, pedunculis plerumque 5–6 mm. longis gracilibus versus apicem articulatis stellato-tomentellis; calyx ca. 8 mm. longus dense stellato-tomentellus atque pilis longis mollibus albis patentibus pilosus, lobis oblongo-ovatis tubo bene longioribus subulato-acuminatis trinerviis erectis; petala late cuneato-obovata 1 cm. longa glabra violacea; carpella 4 mm. longa dense molliter stellato-pilosa apice rotundata.—Mexico: Chinobampo, Río Mayo, Sonora, among rocks in mesquite arroyo, January 10, 1937, *Howard Scott Gentry* 2982 (type in Herb. Field Mus.).

LOASACEAE

Eucnide hypomalaca Standl., sp. nov.—Herba vel suffrutex ramosus fragilis decumbens, ramis crassis pallide viridibus dense pilis longis mollibus viscido-pilosis dense foliatis; folia modica longi-petiolata membranacea, petiolo 2–4 cm. longo dense pilis patulis viscido-piloso; lamina late ovata vel rotundato-ovata 3–7 cm. longa 2.5–5 cm. lata obtusa, basi truncata vel breviter cordata, sinuato-

lobata, lobis obtusissimis grosse sinuato-dentatis, supra tactu aspera sat dense glanduloso-pilosa vel serius glabrata, subtus ubique dense pilis eglandulosis mollibus velutino-pilosa; pedunculi axillares breves pilis longis patulis viscido-pilosi; sepala lineari-lanceolata pallide viridia 2 cm. longa basin versus 4 mm. lata longe sensim attenuata, pilis longis viscidis patentibus pilosa; petala alba ca. 4 cm. longa; stamina petalis bene longiora.—Mexico: Arroyo Mescales, Río Mayo, Sonora, on shaded sides of rock cliffs, February 18, 1935, *Howard Scott Gentry* 1315 (type in Herb. Field Mus.).

"Perennial, spreading and short-branched. A green alleviation on the bare rock walls. Sometimes three feet in diameter. Observed also at Caramechi." From other species of the genus the present plant differs substantially in the pubescence of the lower leaf surface. In *E. hypomalaca* the pubescence is soft and velvety to the touch; in other species rough and adhering to the fingers when touched.

LYTHRACEAE

Cuphea indocta Standl., sp. nov.—Herba annua(?) erecta 35 cm. alta et ultra sparse ut videtur ramosa, caule crassiusculo pallide viridi dense pilis patulis viscidis villoso, internodiis plerumque elongatis; folia modica petiolata membranacea, petiolo gracili 1–2 cm. longo viscido-villoso; lamina lanceolata usque ovato-lanceolata 4.5–7 cm. longa 1–2.5 cm. lata acuta vel attenuato-acuminata, apice ipso obtuso, basi acuta, supra in sicco cinereo-viridis hispidula atque hinc inde pilis paucis longioribus conspersa, subtus fere concolor ubique sat dense scaberula, ad costam pilis paucis longioribus hirtella; flores ex axillis superioribus nascentes solitarii vel geminati, pedicellis ad 3.5 mm. longis viscido-villosis, bracteolis 2 foliaceis viridibus lineari-lanceolatis usque 8 mm. longis; calyx 8–9 mm. longus tubulosus basi uno latere breviter rotundato-calcaratus atque 2 mm. crassus, pallide viridis, dense pilis patulis hispidulus, ore valde obliquo, dentibus brevissimis, intus glaber; stamina 11 inclusa glabra; petala ut videtur purpurea, majore longe unguiculato ca. 6 mm. longo; stylus glaber 4 mm. longus; ovula 3.—Mexico: Guasaremos, Río Mayo, Chihuahua, growing in margins of fields, under *Guazuma ulmifolia*, August 3, 1936, *Howard Scott Gentry* 2354 (type in Herb. Field Mus.).

UMBELLIFERAE

Eryngium calaster Standl., sp. nov.—Herba erecta perennis(?) 25 cm. alta et ultra, tantum ad nodos minute puberula, aliter glabra,

caulibus gracillimis striatis simplicibus vel superne pauciramosis, internodiis elongatis, caule infra inflorescentiam vulgo bifoliato; folia basalia non visa, caulina sessilia vel breviter petiolata anguste oblanceolata 4–6 cm. longa 1–1.5 cm. lata obtusa, basin versus longe sensim attenuata, in toto margine arcte spinoso-serrata, dentibus acuminatis patentibus, 1-nervia, venis utrinque prominulis tenerrimis laxe reticulatis; capitula 1–4 atque 2.5–4 cm. longe pedunculata ovoideo-globosa ca. 6 mm. longa atque aequilata densissime multiflora; bracteae ca. 10 lineari-lanceolatae 1.5 cm. longae et 5 mm. latae apice tridentatae grosse spinuloso-serratae, extus in sicco caeruleo-virides, intus fere albae, bracteolis linearibus rigidis floribus multo longioribus.—Mexico: Memelichi, Río Mayo, Chihuahua, in meadow among pines, alt. 2,250 meters, September 16, 1936, *Howard Scott Gentry* 2762 (type in Herb. Field Mus.).

"Common in the moist meadows. Heads blue."

APOCYNACEAE

Macrosiphonia Woodsoniana Standl., sp. nov.—Frutex sat dense ramosus, ramis gracilibus teretibus ferrugineis rimosis, internodiis plerumque foliis brevioribus, novellis dense pilis albidis subpatulis tomentosis; folia parva subsessilia crassiuscula, petiolo vix 1 mm. longo; lamina oblonga vel ovato-oblonga 1–1.5 cm. longa 4–8 mm. lata acuta vel obtusa, basi rotundata, supra cinereo-viridis dense molliter pilosula, subtus paullo pallidior dense pilis longiusculis patulis vix intertextis pilosa; flores singuli axillares, pedunculo nullo, pedicello 7–11 mm. longo superne paullo incrassato piloso et puberulo; sepala anguste triangulari-lanceolata 4–5 mm. longa e basi ad apicem sensim attenuata subpurpurea dense pilosula; corolla alba extus densiuscule pilis albis longiusculis pilosa, tubo gracili 3.5 cm. longo 2 mm. crasso, fauce 2 cm. longo superne 7 mm. lato, lobis rotundatis 2 cm. longis et aequilatis apice late rotundatis; folliculi graciles ca. 6.5 cm. longi, valvulis 7 mm. latis.—Mexico: Guasaremos, Río Mayo, Chihuahua, arid oak slopes, July 30, 1936, *Howard Scott Gentry* 2342 (type in Herb. Field Mus.).

Local name San Juanito. "A low, woody bush. Petals white with a pink margin below, wilting under the sun." Although most of the species of *Macrosiphonia* are none too sharply differentiated, the present plant appears to have characters sufficient for specific segregation. It is related to *M. macrosiphon* (Torr.) Heller, which also occurs in Chihuahua, but that has usually much larger, more conspicuously petiolate leaves, and calyx lobes 1–2 cm. long. *M.*

hesperia I. M. Johnston, of Lower California, resembles *M. Woodsoniana* in its definitely shrubby habit, but differs in its large, ovate-orbicular leaves, and somewhat larger calyx lobes.

The species is named for Dr. Robert E. Woodson, Jr., monographer of the North American Apocynaceae, to whom the writer is indebted for many favors.

Zschokkea Standleyi Woodson, sp. nov.—Arbor ca. 5–7 m. alta; ramulis graciliusculis glabris. Folia opposita breviter petiolata oblongo-elliptica apice acute acuminata basi late obtusa rotundatave 10–12 cm. longa 3–4 cm. lata subcoriacea glabra; petiolo 0.6–0.8 cm. longo glabro. Inflorescentia lateralis opposita 3–8-flora; pedunculo 1.0–1.3 cm. longo glabro. Flores gilvi pro genere magni; pedicello 0.3 cm. longo glabro; bracteis late ovatis ca. 0.1 cm. longis; calycis laciniis ovato-subreniformibus rotundatis 0.2–0.25 cm. longis subfoliaceis margine ciliolatis; corollae salverformis tubo ca. 2.5 cm. longo paululo arcuato basi ca. 0.2 cm. diam. medio angustato tertia parte superiore staminigero ibique aliquid inflato extus glabro intus minute pilosulo, lobis oblique ovato-lanceolatis acuminatis ca. 0.8 cm. longis patulis extus glabris intus basi papillatis; antheris anguste oblongis 0.6 cm. longis; ovario ovato-fusiformi cum stylo 0.6 cm. longo glabro vel minutissime papillato, stigmate 2-fido anguste oblongoideo ca. 0.15 cm. longo apice apiculato dense puberulo-papillato. Fructus ignotus.—Guatemala: Entre Ríos, Dept. Izabal, alt. ca. 18 meters, common in pasture, April 30, 1939, *P. C. Standley* 72587 (Herb. Missouri Bot. Garden, type; Herb. Field Mus., duplicate).

This plant is of considerable interest since it is the most northern known representative of the South American genus *Zschokkea*, most frequent in the upper Amazon Valley. Like *Z. panamensis* Woods., it differs from the South American congeners by its relatively long, spreading corolla lobes, but the corolla, and particularly the calyx, are so large that at first sight the genus was not recalled. In all other known species of the genus the calyx is very inconspicuous, seldom exceeding 0.1 cm. in length; and this character apparently is quite constant.

ASCLEPIADACEAE

Asclepias amsonioides Standl., sp. nov.—Herba perennis 25 cm. alta, caule inferne tantum ramoso sparse bifarie puberulo vel fere glabro bisulcato subtereti, internodiis infimis abbreviatis, superioribus elongatis et foliis fere aequilongis; folia opposita brevis-

sime petiolata crassa, petiolo incrassato vix ad 3 mm. longo, in foliis superioribus nullo; lamina linearis 3.5–6 cm. longa 2.5–4 mm. lata e basi ad apicem sensim angustata, basi acuta vel obtusa et interdum subdilatata, supra glabra vel sparse minute puberula, subtus fere glabra vel ad costam pallidam prominentem sparse pilosula, nervis obscuris vel obsoletis; umbellae axillares singulae paucae 3–6 cm. longe pedunculatae, 7–8-florae, bracteis inconspicuis subulatis 3–5 mm. longis, pedicellis 12–17 mm. longis filiformibus sparse minute puberulis; calyx ca. 3 mm. longus glaber vel glabratus, segmentis lanceolato-oblongis acutis erectis; corolla rotata plus minusve reflexa glabra, lobis ut videtur pallide viridibus ovatis vel oblongo-ovatis 5–6 mm. longis obtusis pallido-marginatis; gynostegium subsessile, coronae cucullis late oblongis 3 mm. longis apice tridentatis, dentibus triangularibus acutiusculis, corniculis subexsertis simplicibus attenuatis.—Mexico: La Cima, Chihuahua, June 29, 1936, *Harde LeSueur* 848 (type in Herb. Field Mus.).

Asclepias Gentryi Standl., sp. nov.—Herba gracilis perennis ut videtur simplex 13–26 cm. alta, caule viridi bifarie incurvo-pilosulo, internodiis plerumque foliis paullo brevioribus, interdum duplo brevioribus; folia numerosa opposita anguste linearia sessilia vel in petiolum brevem angustata 3.5–6 cm. longa vix ultra 1.5 mm. lata, apice acutiuscula, sparse puberula vel pilosiuscula, uninervia, marginibus vulgo revolutis; umbellae axillares 2–3 vulgo 6–10-florae, pedunculis 1.5–2.5 cm. longis, bracteis subulatis brevibus, pedicellis filiformibus 5–14 mm. longis dense puberulis; calycis segmenta valde inaequalia usque 2.5 mm. longa lanceolato-linearia viridia adpressa incurvo-puberula; corolla glabra reflexa ut videtur rubro-purpurea, lobis oblongis obtusis ca. 4.5 mm. longis; gynostegium 1.5 mm. longe stipitatum, coronae cucullis luteis latis margine inflexis obtusis, corniculis simplicibus valde curvis.—Mexico: Guasaremos, Río Mayo, Chihuahua, sunny oak slopes, July 24, 1936, *Howard Scott Gentry* 2330 (type in Herb. Field Mus.).

"Scattered infrequently with short grass on almost barren slopes." A low, slender plant, with long, linear leaves, and compact, small umbels of apparently purple-red and yellow or orange flowers.

Asclepias suffrutex Standl., sp. nov.—Perennis ramosa prope basin lignosa, caulibus ut videtur numerosis gracillimis teretibus glaucescentibus vix ultra 1 mm. crassis glabris, internodiis plerumque foliis multo longioribus; folia pauca remota opposita filiformia vel anguste linearia patula vel recurva 2.5–5 cm. longa minus quam

1 mm. lata glabra pallida; umbellae ca. 3 ad apicem rami aggregatae breviter pedunculatae pauciflorae, pedicellis gracillimis glabris 8–14 mm. longis; sepala ca. 2 mm. longa anguste triangulari-lanceolata erecta anguste attenuata glabra; corolla reflexa glabra ut videtur pallide viridis vel fere alba, lobis 3.5 mm. longis obtusis; gynostegium breviter stipitatum, coronae cucullis oblongis margine inflexis apice rotundatis integris, corniculis simplicibus valde recurvis subulatis; folliculi immaturi lineari-lanceolati 3.5 cm. longi 3.5 mm. lati glabri, apicem versus longe sensimque attenuati.—Mexico: Huisiego, Río Mayo, Chihuahua, growing out of crevices in a boulder on oak slope, August 15, 1936, *Howard Scott Gentry* 2388 (type in Herb. Field Mus.).

"Perennial from a woody base. Margin of flower white." An extremely slender and rather delicate plant, pale green, with almost filiform, elongate leaves.

CONVOLVULACEAE

Ipomoea Gentryi Standl., sp. nov.—Herba ut videtur procumbens, caulibus brevibus striato-angulatis glabris, internodiis plerumque brevibus; folia parva longipetiolata membranacea, petiolo gracillimo 1.5–2.5 cm. longo glabro; lamina ambitu rotundato-ovata 1.5–2.5 cm. longa et aequilata profunde saepe fere ad basin 5-lobata, lobis exterioribus interdum quoque lobatis, lobis anguste lanceolato-oblongis usque fere linearibus longiattenuatis integris vel undulatis, basi profunde cordata, sinu late rotundato, supra sparse subadpresse hirtella, subtus glabra; pedunculi axillares singuli 8–13 mm. longi sursum paullo incrassati glabri; sepala oblonga adpressa 1.5 cm. longa obtusa vel acutata atque 1 mm. longe mucronata glabra puncticulata coriaceo-membranacea; corolla 8.5 cm. longa ut videtur pallide purpurea, tubo inferne gracillimo et 2 mm. crasso, parte angusta ca. 3 cm. longa, fauce subabrupte dilatato, limbo ca. 6 cm. lato obscure repando-lobato, lobis apice truncatis mucronatis; stamina 5 cm. longa.—Mexico: Sierra Canelo, Río Mayo, Chihuahua, in open meadow, pine-oak country, August 30, 1936, *Howard Scott Gentry* 2497 (type in Herb. Field Mus.).

"A small ground vine. Corolla opal."

Ipomoea maltratana Standl., sp. nov.—Herba volubilis, caulibus gracilibus teretibus striatis sparse minuteque hispidulis vel fere glabris, internodiis brevibus foliis subaequalibus; folia parva petiolata membranacea, petiolo 6–20 mm. longo gracili sparse hirtello vel glabrato; lamina sagittata vel late sagittata 1.5–3 cm. longa

basi 1–1.5 cm. lata, lobo terminali triangulari-oblongo acuto vel acuminato apiculato, integro vel undulato, lobis basalibus latis oblongis vel rotundatis grosse undulato-paucidentatis, concolor, utrinque sparse hispidula, basi profunde cordata, sinu lato vel latissimo; pedunculi axillares singuli 1-flori cum pedicello 1–2 cm. longi sparse hispiduli, pedicello glabro obscure verruculoso; sepala subcoriacea inaequalia, interiora ovato-oblonga 5–6 mm. longa obtusa brevissime mucronata glabra adpressa, exteriora fere duplo breviora atque paullo latiora verruculosa; corolla ut videtur purpurea ca. 4.5 cm. longa.—Mexico: Zacatal, Maltrata, Veracruz, May, 1937, *E. Matuda* S-106 (type in Herb. Field Mus.).

LABIATAE

Hedeoma floribunda Standl., sp. nov.—Herba perennis erecta 30 cm. alta e basi dense ramosa, caulibus gracilibus incurvo-puberulis, internodiis foliis subaequalibus; folia modica breviter petiolata firme membranacea, petiolo vix ultra 2 mm. longo, lamina anguste oblonga vel oblanceolato-oblonga 7–18 mm. longa 2–5 mm. lata obtusa, basi angustato-acuta, utrinque dense punctata et sparse minute puberula, margine integro vel sparse apicem folii versus serrulato-dentato; flores numerosissimi apice caulis fere spicatim aggregati, inflorescentia densa plus minusve foliata, floribus dense fasciculatis, pedicellis gracillimis vix ultra 2 mm. longis; calyx tubulosus 3 mm. longus incurvo-puberulus, dentibus brevibus subpatulis triangularibus acuminatis, fauce dense barbato; corolla 6–7 mm. longa ut videtur purpurascens extus minute pilosula, labiis valde inaequalibus.—Mexico: Cerro Quicorichi, Río Mayo, Sonora, in pine woods, October 6, 1935, *Howard Scott Gentry* 1938 (type in Herb. Field Mus.).

Vernacular name Orégano. The plant is employed locally for seasoning meat stews.

SOLANACEAE

Brunfelsia nyctaginoides Standl., sp. nov.—Frutex(?), ramulis gracilibus teretibus, vetustioribus ochraceis, novellis dense breviter villosulis, internodiis brevibus; folia inter minora petiolata membranacea, petiolo gracili 8–15 mm. longo sparse villosulo vel glabrato; lamina ovata vel ovato-elliptica 4–8 cm. longa 2–4 cm. lata acuta, basi acuta, subito contracta et longe angusteque decurrens, supra viridis, ad costam breviter villosula, aliter glabra, subtus fere concolor, ad costam nervosque sparsissime villosa, aliter glabra, costa gracili prominente, nervis lateralibus utroque latere 3–5

arcuatis angulo semirecto adscendentibus tenerrimis prominulis, venulis obscuris; inflorescentia terminalis cymoso-corymbosa pauciflora vix foliis longior e basi ramosa, pedicellis usque 13 mm. longis dense breviter villosulis; calyx campanulatus ca. 1 cm. longus viridis fere glaber ad medium vel profundius lobatus, lobis ovato-oblongis acutis vel acuminatis ciliolatis; corolla extus ad nervos sparse villosula vel fere glabra, tubo gracili 3.5 cm. longo medio 2 mm. lato, fauce 5 mm. lato, e basi ad faucem sensim dilatato, limbo breviter lobato, lobis late rotundatis villosulo-ciliatis.—Mexico: Mount Tacaná, Chiapas, alt. 1,000–2,000 meters, August, 1938, *E. Matuda* 2411 (type in Herb. Univ. Michigan).

The material is in flower and young fruit. I am not altogether certain as to its generic disposition, but it seems to belong in *Brunfelsia*, although in foliage it is not exactly like any other species that I have examined. The genus has not been recorded before for Mexico.

LENTIBULARIACEAE

Utricularia Gentryi Standl., sp. nov.—Herba pusilla, caule 2.5–6 cm. alto gracillimo glabro recto vel subflexuoso 1–3-floro vulgo bracteis 1–2 minutis vix 1 mm. longis lanceolatis acuminatis sessilibus onusto; folia omnia basalia atque subrosulata anguste cuneato-spathulata 5–10 mm. longa apice subtruncata vel late rotundata, basin versus longe sensimque attenuata, in sicco tenerrima et fere hyalina, nervosa; flores pallide caerulei, pedicellis vix ultra 1 mm. longis, bracteolis pedicello brevioribus lanceolatis suberectis acutis vel acuminatis; calycis segmenta 2.5–3 mm. longa paullo inaequalia ovato-rotundata apice rotundata vel obtusissima; corolla glabra ca. 1 cm. longa vel ultra, labio postico 5 mm. longo, antico latissimo apice rotundato undulato, calcare 5–6 mm. longo angusto incurvo. —Mexico: Sierra Chirivo, Río Mayo, Sonora, March 8, 1935, *Howard Scott Gentry* 1407 (type in Herb. Field Mus.).

"On flat rock in seeping water. The delicate basal leaves were imbedded in a fine moss, and it was necessary to use tweezers to get them. Corolla pale blue."

RUBIACEAE

Capirona erythroxylon Standl., sp. nov.—Ramuli crassi dense pilis brevibus ochraceis hirsuti, internodiis brevibus; stipulae non visae; folia magna breviter petiolata membranacea, petiolo crasso ad 2 cm. longo dense breviter hirsuto; lamina cuneato-obovata vel late elliptico-obovata 15–27 cm. longa 8–14 cm. lata apice subro-

tundata et abrupte brevissime apiculato-acutata, e tertio superiore sensim ad basin cuneato-attenuata vel interdum subabrupte contracta et attenuata, supra sparse breviter hirsutula vel fere glabra, venulis arctissime reticulatis prominulis, subtus ubique dense molliter breviter pilosa, costa gracili elevata, nervis lateralibus utroque latere circiter 16 prominentibus angulo lato fere recto divergentibus, venulis prominentibus arcte reticulatis; inflorescentia terminalis cymoso-paniculata sessilis circiter 9–11 cm. longa et aequilata vel major, e basi trichotoma, ramis oppositis vel verticillatis late adscendentibus sparse pilosis vel glabratis, bracteis late ovatis vel ovalibus ad 6 mm. longis membranaceis deciduis, cymis paucifloris, pedicellis crassiusculis vulgo 3–8 mm. longis; hypanthium turbinatum 3 mm. longum sparse vel dense hirsutum vel glabratum, calyce breviter lobato, lobis late ovatis vel ovalibus apice rotundatis ca. 3 mm. longis, lobo uno interdum in laminam foliaceam 4.5 cm. longe petiolatam late ovatam glabram apice obtusam vel rotundatam palmatinerviam 6.5 cm. longam producto; corolla 2 cm. longa extus glabra, tubo crasso intus ad insertionem staminum villoso, lobis 5 ovato-oblongis acutis intus glabris tubo duplo brevioribus; stamina paullo infra faucem inserta, filamentis complanatis, antheris linearioblongis 6 mm. longis.—Peru: Without locality, "año de 1800," *Ruiz & Pavón* (type in herb. Madrid).

The vernacular name is reported as Palo colorado. This may be the plant to which reference is made by Schumann (in Mart. Fl. Bras. 6, pt. 6: 196. 1888): "Spruce found near Yurimaguas, along the Río Huallaga, another species, which I have not seen, with subpilose leaves attenuate at base and apex, and with paler bark." However, the characterization of the leaves does not agree well with the species here described. The present species is altogether different from the other one known from Peru, *C. decorticans* Spruce, in its pubescence and leaf shape. It is possible then that when more satisfactory material has been obtained, it will be necessary to make some other generic disposition of *Capirona erythroxylon*.

Cephaelis phaneroneura Standl., sp. nov.—Frutex 1.5 m. altus ramosus, ramis gracilibus subteretibus ochraceis, novellis pilis sordidis patentibus vel subadpressis sat dense pilosis, internodiis elongatis; stipulae persistentes in vaginam brevem annuliformem connatae, vagina setis 2 erectis pallidis 4 mm. longis et ultra utroque latere aucta; folia inter minora breviter petiolata membranacea, petiolo crassiusculo 5–8 mm. longo adpresso-piloso; lamina lanceolato-elliptica vel anguste oblongo-elliptica 9–14 cm. longa 3.5–5.5

cm. lata breviter vel longe acuminata, basin versus attenuata vel acuminata, supra in sicco fusca vix lucida ad costam adpresso-pilosa, aliter glabra, costa prominente, nervis manifestis sed non elevatis, subtus fere concolor, ad costam nervosque adpresso-pilosa, aliter glabra vel glabriuscula, costa gracili valde elevata, nervis lateralibus utroque latere ca. 6 elevatis angulo semirecto vel angustiore adscendentibus valde obliquis arcuatis, venis prominentibus transversis atque subparallelis remotis; inflorescentia capituliformis terminalis arcte sessilis 2.5 cm. longa 3.5 cm. lata densissime multiflora, bracteis liberis oblongo-ovatis vel oblongo-lanceolatis 6–8 mm. latis acutis extus dense breviter pilosis, intimis multo brevioribus atque angustioribus; flores in alabastro tantum visi et non bene evoluti.—Peru: On rising ground, Gamitanacocha, Río Mazán, Dept. Loreto, alt. 100–125 meters, January 25, 1935, *José M. Schunke* 116 (type in Herb. Field Mus.).

A well marked species, not easily associable with any other Peruvian one. Although the flower heads are fully expanded, so far as the bracts are concerned, the flowers still are so young that it has been impossible to establish their character with any certainty.

Eizia Standl., gen. nov.—Frutices fere glabri, ramulis subteretibus ad nodos paullo dilatatis; folia opposita petiolata membranacea; stipulae interpetiolares brevissimae fere ad lineam interpetiolarem reductae; inflorescentia terminalis cymosa laxe pauciflora pedunculata, floribus pedicellatis magnis, bracteis bracteolisque valde reductis fere nullis inconspicuis; hypanthium clavatum basin versus sensim attenuatum costato-angulatum; calyx profunde 4-lobus viridis, lobis latis ad apicem fructus persistentibus; corolla hypocrateriformis fulva, tubo gracili longissimo, versus apicem paullo sensim dilatato, intus glabro, lobis 4 leviter imbricatis (vel convolutis?) patentibus oblongis venosis intus glabris; stamina 4 ad apicem tubi inserta, filamentis brevissimis, antheris dorsifixis erectis subexsertis obtusis; ovarium 2-loculare; stylus inclusus longissimus gracillimus puberulus apice brevissime bifidus, ovulis numerosis; capsula obovoidea costata, apice alte supra calycem persistentem protrusa, subcoriacea, apice septicide bivalvata, valvis apice bipartitis; semina numerosa angulata tuberculato-rugosa.

Type species, *Eizia mexicana* Standl.

Eizia mexicana Standl., sp. nov.—"Frutex herbaceus," ramulis pallide brunnescentibus in sicco substriatis, internodiis elongatis; linea stipularis vix 0.5 mm. alta medio breviter apiculata; petiolus

gracilis glaber 1–2.3 cm. longus; lamina ovata vel oblongo-ovata 7.5–10.5 cm. longa 2.5–5.5 cm. lata anguste longiacuminata, basi saepe obliqua obtusa vel acuta, supra in sicco subfusca glabra puncticulata, costa subimpressa, nervis manifestis sed non elevatis, subtus fere concolor in axillis nervorum barbata, aliter glabra, costa gracillima elevata, nervis lateralibus utroque latere ca. 6 arcuatis angulo latiusculo adscendentibus, venulis obscuris; inflorescentia usque 1.5 cm. longe pedunculata, interdum sessilis, pauciflora laxa usque 7 cm. longa atque aequilata, ramis pedicellisque glabris vel glabratis, pedicellis rigidis 1.5–2.5 cm. longis erectis; hypanthium glabrum 4–5 mm. longum, calyce 2 mm. longo viridi, lobis late triangularibus acutiusculis; corolla extus saltem in parte superiore puberula, tubo 5 cm. longo infra orem 4 mm. lato, lobis ca. 8 mm. longis; antherae ca. 6 mm. longae 1 mm. latae; capsula ca. 12 mm. longa atque 8 mm. lata basi obtusa vel subacuta ca. 3 mm. supra calycem protrusa; semina irregulariter angulata 0.6–0.8 mm. diam. fusco-brunnea.—Mexico: Mount Tacaná, Chiapas, alt. 1,000–2,000 meters, August, 1938, *E. Matuda* 2402 (type in Herb. Univ. Michigan; fragment and photo. in Herb. Field Mus.).

This plant is a somewhat puzzling one, as so often is the case with unusual Rubiaceae. In general appearance it does not suggest definitely any other group of North or South America. The capsules do bear some similarity to those of *Manettia*, but the large corolla, with long, slender tube and spreading limb recalls to one the flowers of such a remote genus as *Mirabilis*. The genus is to be placed, apparently, in the tribe Rondeletieae, but there no close association with other genera is apparent. Probably it is related to *Lindenia* and *Stylosiphonia*, and more closely to the former. *Lindenia* differs, however, in having 5-parted flowers, narrow, elongate calyx lobes, and smooth seeds, nor is it similar in vegetative characters.

The genus is dedicated to its discoverer, Mr. Eizi Matuda, whose extensive explorations in southern Mexico have added many species to the known flora of that region, especially in the little known mountains of the state of Chiapas.

Hillia Matudai Standl., sp. nov.—Arbor 10-metralis, trunco 15 cm. diam., omnino glabra, ramulis crassis plus minusve compressis fuscis, internodiis brevibus; folia majuscula petiolata in sicco subcoriacea, petiolo crasso 1.5–2.5 cm. longo; lamina late elliptica vel ovali-elliptica 6.5–10.5 cm. longa 4–8 cm. lata obtusa, basi breviter cuneato-angustata, supra in sicco fusca, costa subimpressa, nervis prominulis, subtus paullo pallidior, costa prominente, nervis

lateralibus utroque latere ca. 8 tenerrimis vix prominulis angulo angusto adscendentibus fere rectis, venulis obsoletis; inflorescentia terminalis cymoso-corymbosa saepissime triflora sessilis vel breviter pedunculata, pedicellis brevibus crassis; hypanthium clavatum 7–8 mm. longum basin versus sensim angustatum; calyx usque 9 mm. longus, segmentis erectis rigidis lanceolatis subulato-acuminatis inaequalibus; corolla alba coriacea, tubo gracili ca. 9 cm. longo medio 4 mm. lato, apice ca. 6 mm. lato, lobis 5 patentibus oblongis apice obtusis vel rotundatis 3–3.5 cm. longis; antherae semiexsertae; stylus breviter exsertus.—Mexico: Mount Tacaná, Chiapas, alt. 2,000–4,040 meters, August, 1938, *E. Matuda* 2327 (type in Herb. Field Mus.; duplicate in Herb. Univ. Michigan).

Among all species of *Hillia* found in Mexico or northern Central America this is easy of recognition because of the unusually large flowers and the large, broad leaves.

Hoffmannia areolata Standl., sp. nov.—Frutex 0.6–1.8 m. altus simplex(?), caule subtereti vel obtuse tetragono villoso vel glabrato, internodiis elongatis; folia mediocria longipetiolata herbacea, petiolo 2.5–5 cm. longo superne marginato villoso vel glabrato; lamina oblongo-elliptica vel ovato-oblonga ca. 15 cm. longa atque 5.5 cm. lata longe anguste acuminata, basin versus longe sensim attenuata atque decurrens, supra in sicco viridis, ad costam villosa, intra areolas venarum pilis aggregatis paucis albidis brevibus crassis villosa, subtus pallidior, ad costam elevatam villosa, ad nervos venasque pilis brevibus pallidis villosula, nervis lateralibus utroque latere ca. 17 teneribus prominentibus arcuatis angulo ca. recto divergentibus, venulis elevatis laxe reticulatis; flores numerosi dense aggregato-cymosi, inflorescentiis multifloris sessilibus vel brevissime pedunculatis; fructus dense pilis plurilocularibus longis villosus.—Panama: In rain forest, Bajo Chorro, Boquete District, Provincia de Chiriquí, 1,800 meters, January, 1938, *Mrs. M. E. Davidson* 40 (type in Herb. Field Mus.).

The flowers are described as greenish, although none are present on the single specimen seen, and the fruits as scarlet. The available material, unfortunately, is not in good condition, as the result of too abundant moisture during drying, and it is impossible to determine satisfactorily the characters of the inflorescence. The curious pubescence of the leaves is unlike that of any other species, and this character alone is sufficient to establish the species as distinct. The pubescence of the upper leaf surface consists of a small, isolated group of short, stubby, pale hairs in each areole.

Hoffmannia cryptoneura Standl., sp. nov.—Frutex ramosus, ramis gracilibus glabris in sicco fuscis, internodiis elongatis; stipulae parvae caducae; folia inter minora breviter petiolata membranacea, petiolo 6–17 mm. longo glabro; lamina oblanceolata vel oblongo-oblanceolata 7–11.5 cm. longa 2–2.8 cm. lata anguste acuminata vel interdum apicem subobtusum versus angustata, basin versus longe sensim attenuata, glabra, supra in sicco fuscescens, nervis obsoletis, costa non elevata, subtus pallidior, brunnescens, costa crassiuscula perspicua sed vix elevata, nervis lateralibus utroque latere ca. 8 sed vix obviis, venis obsoletis; flores pauci vel numerosi in axillis dense cymoso-aggregati, inflorescentia sessili petiolum vix aequante, floribus sessilibus vel usque 5 mm. longe pedicellatis tetrameris; hypanthium turbinatum glabrum 1 mm. longum, calyce aequilongo, dentibus brevibus triangularibus acutis; corolla extus glabra, tubo gracili 5–6 mm. longo superne paullo dilatato, lobis aequilongis patentibus oblongo-linearibus obtusis; stamina lobis corollae fere aequilonga, filamentis exsertis, antheris erectis linearibus 3.5 mm. longis.—Mexico: Mt. Ovando, Chiapas, April, 1936, *E. Matuda* 944 (type in Herb. Field Mus.); also No. 955. Duplicates of both collections in Herb. Univ. Michigan.

The nearest relative is perhaps *H. psychotriaefolia* (Benth.) Griseb., of Central America. In that the leaves are conspicuously different because of their prominent lateral nerves. In *H. cryptoneura* the nerves are scarcely perceptible.

Hoffmannia Davidsoniae Standl., sp. nov.—Frutex 0.6–1.8 m. altus ut videtur simplex, caule crassiusculo tereti glabro, internodiis elongatis; folia majuscula longe petiolata herbacea, petiolo gracili 2–5 cm. longo glabro; lamina ovalis vel ovali-elliptica 12–17 cm. longa 6.5–9 cm. lata, apice rotundata vel obtusissima atque breviter abrupte apiculato-acuminata, acumine triangulari vel anguste triangulari vix 1 cm. longo, basi subito acuta et breviter decurrens, glabra, supra in sicco fusca, costa nervisque vix elevatis, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere ca. 15 teneris valde curvis angulo recto divergentibus prope marginem arcuato-conjunctis, venulis inconspicuis sed arcte reticulatis; inflorescentia axillaris sed e nodo defoliato nascens laxe cymoso-corymbosa longipedunculata multiflora ca. 4 cm. longa atque 9 cm. lata, basi trichotoma, pedunculo 4–6.5 cm. longo recto glabro, floribus tetrameris in alabastris tantum visis glabris, pedicellis fructiferis plerumque 5–7 mm. longis; fructus oblongo-ovalis 4–5 mm. longus 2.5 mm. latus obscure costatus, sepalis persistentibus

late triangularibus brevissimis.—Panama: In rain forest, Bajo Chorro, Boquete District, Provincia de Chiriquí, 1,800 meters, January, 1938, *Mrs. M. E. Davidson* 216 (type in Herb. Field Mus.).

"Flowers pale pink; fruit scarlet." The species is noteworthy for the broad inflorescence, larger than in most other species of *Hoffmannia*, and borne upon an unusually long and stiff peduncle.

Morinda asperula Standl., sp. nov.—Frutex 3-metralis, ramulis crassiusculis in sicco fere nigris obtusangulis dense minuteque scaberulis, internodiis elongatis; stipulae persistentes late ovali-ovatae 10–14 mm. longae apice late obtusae vel rotundatae minute scaberulae; folia majuscula breviter petiolata firme membranacea in sicco fusca, petiolo crassiusculo 5–10 mm. longo scaberulo; lamina oblongo-elliptica vel subelliptica 11–18 cm. longa 4–7.5 cm. lata acuminata vel longiacuminata, basi acuta, supra glabra vel in statu juvenili sparse minute scaberula, cito glabrata, subtus ubique minute denseque scaberula, tactu asperula, in axillis nervorum dense barbata, costa prominente gracili, nervis lateralibus utroque latere ca. 7 angulo semirecto vel paullo latiore adscendentibus obliquis prominentibus subarcuatis; capitula axillaria solitaria 1.5 cm. longe pedunculata, pedunculo dense minute puberulo, capitulis dense plurifloris corollis exclusis 8 mm. diam.; calyx brevis truncatus minute puberulus; corolla alba 1 cm. longa dense puberula.—Guatemala: Hilly pine forest, near Quiriguá, Dept. Izabal, alt. 150 meters, April 26, 1939, *Paul C. Standley* 72368 (type in Herb. Field Mus.).

This plant is described with some hesitation, but it is difficult to place it with any of the three other species known from the Central American region. The size of the leaves indicates its relationship with *M. panamensis* Seem., but in that the leaves are glabrous, and average distinctly broader than in *M. asperula*. *M. yucatanensis* Greenm., of the Yucatan region, has pubescent leaves, but they are much smaller and narrower, and the pubescence much more ample and of different quality.

Rondeletia chiapasensis Standl., sp. nov.—Frutex, ramulis crassiusculis subteretibus rubescentibus densissime pilis longiusculis patentibus vel adscendentibus mollibus villoso-pilosis, internodiis brevibus; stipulae e basi triangulari longe anguste subulato-attenuatae 6–7 mm. longae dense pilosulae; folia modica breviter petiolata membranacea, petiolo crasso 5–10 mm. longo dense breviter piloso; lamina anguste oblongo-lanceolata 10.5–14 cm. longa 3–4 cm. lata

longe anguste attenuato-acuminata, basi acuta, supra in sicco viridis dense pilis albidis longis vel brevibus patentibus vel subadpressis gracilibus sat dense pilosa, subtus pallidior densissime pilis longis laxis pallidis lucidis piloso-tomentosa, costa gracili prominente, nervis lateralibus utroque latere ca. 10 prominulis gracillimis angulo semirecto vel angustiore adscendentibus; inflorescentia spiciformis 7.5 cm. longa 2 cm. lata 4.5 cm. longe pedunculata erecta, rhachi crassa rubescente dense breviter pilosa, floribus in cymulas parvas densas sessiles dispositis, bracteis paucis filiformibus usque 4 mm. longis; hypanthium sicut calyx dense pilis adscendentibus hirtellum 1 mm. longum hemisphaericum, sepalis lanceolato-oblongis aequilongis vel paullo longioribus erectis acutis; corolla extus dense strigosa, tubo ca. 10 mm. longo crassiusculo fauce dense villoso-barbato et fere 2 mm. lato, lobis 4 rotundatis 3 mm. longis.—Mexico: Cascarada, Chiapas, December 31, 1936, *E. Matuda* 1064 (type in Herb. Univ. Michigan).

In general appearance as well as in details the plant is similar to *R. rufescens* Robinson of Guatemala. In that the corolla is glabrous in the throat and has a much more slender tube.

Rondeletia Mexiae Standl., sp. nov.—Frutex 2-metralis, ramis gracilibus teretibus ferrugineis, novellis dense pilis adscendentibus vel subpatentibus brevibus fulvidis pilosis, internodiis plerumque elongatis; stipulae subpersistentes ovato-triangulares ca. 4 mm. longae acutae sparse strigosae erectae; folia mediocria breviter petiolata membranacea, petiolo gracili 6–11 mm. longo dense breviter piloso; lamina ovata usque elliptica 7–10.5 cm. longa 3.5–5.5 cm. lata subabrupte longe angusteque attenuato-acuminata, basi rotundata vel obtusa, supra in sicco viridis sparse breviter patenti-pilosa, subtus paullo pallidior, ad nervos venasque sparse breviter albido-pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 6 gracillimis prominentibus valde arcuatis angulo semirecto vel paullo latiore oblique adscendentibus; inflorescentia terminalis cymoso-paniculata sessilis e basi trichotoma usque 5.5 cm. longa, floribus paucis vel numerosis ad apices ramorum dense aggregatis sessilibus vel brevissime pedicellatis, ramis dense patenti-hirsutulis, bracteis deciduis elongatis filiformibus vel linearibus hirsutulis; hypanthium obconicum 3–4 mm. longum densissime hirsutum; sepala 4 foliacea viridia paullo inaequalia 7–10 mm. longa lanceolata attenuata utrinque dense subadpresse pilosa; corolla ut dicitur alba (aperta non visa) extus densissime pilis longis albidis subadpressis hirsuta in alabastro 1.5 cm. longa, lobis ut videtur tubo plus quam duplo

brevioribus.—Mexico: State of Oaxaca, Distrito Choapam, Montaña Santa María, in undergrowth in partial shade of forest, alt. 1,500 meters, April 1, 1938, *Ynes Mexia* 9261 (type in Herb. Field Mus.).

An unusually well marked species, clearly to be associated with *Rondeletia hondurensis* Donn. Smith, which differs in having the leaves arachnoid-tomentose beneath, and in many other details.

Rudgea magna Standl., sp. nov.—Frutex(?) glaber, ramulis crassiusculis, internodiis brevibus; stipulae deciduae, non visae, intus basi setulis numerosis incrassatis corneis pallidis persistentibus 1 mm. longis auctae; folia inter maxima breviter petiolata chartacea, petiolo crasso ca. 1.5 cm. longo; lamina oblongo-elliptica usque late elliptica 17–22 cm. longa 8–12.5 cm. lata, apice abrupte contracta atque breviter cuspidato-acuminata, basi acuta vel cuneato-contracta, supra viridis, costa nervisque manifestis, opaca, subtus fere concolor, sublucida, costa gracili elevata, nervis lateralibus utroque latere ca. 10 angulo fere recto divergentibus teneris arcuatis juxta marginem conjunctis, nervulis inconspicuis; inflorescentia parva terminalis ut videtur pauciflora 2.5 cm. longe pedunculata, floribus pedicellatis; fructus juvenilis subglobosus 13 mm. longus 10 mm. latus; calyx ad apicem fructus persistens fere 1 cm. longus atque 8 mm. latus subtruncatus; corolla extus glabra, tubo 1.5 cm. longo prope apicem 4 mm. crasso, lobis 5 lanceolato-oblongis recurvis tubo duplo brevioribus.—Panama: Hills of Sperdi, near Puerto Obaldía, San Blas Coast, alt. 20–200 meters, September, 1911, *H. Pittier* 4350 (type in Herb. Field Mus.).

The single specimen at hand bears only a partial inflorescence and a detached corolla, consequently it is impossible to state what the form of a complete and perfect inflorescence may be. The species differs from all others known from Central America in its very large leaves, and notably in the large flowers.

Sickingia(?) **ecuadorensis** Standl., sp. nov.—Frutex, ramulis crassis teretibus subdense patenti-pilosis ochraceis, internodiis superioribus brevibus; folia magna breviter petiolata crasse membranacea, petiolo crasso 12 mm. longo dense piloso; lamina late cuneato-obovata ca. 28 cm. longa atque 16 cm. lata, apice late obtusa et brevissime abrupte apiculato-acuminata, e medio basin versus sensim cuneato-angustata, basi ipsa anguste rotundata vel obtusa, supra in sicco fusco-viridis opaca sparse pilis rigidis patentibus brevibus hirsuta vel glabra, nervis manifestis sed non elevatis, subtus paullo

pallidior ubique sparse breviter brunneo-hirsuta, costa crassa prominente, nervis lateralibus utroque latere circiter 25 angulo fere recto divergentibus prominentibus gracilibus fere rectis prope marginem arcuato-conjunctis venulis remotis transversis irregularibus connexis, venulis ultimis arcte reticulatis; inflorescentia (tantum in statu fructifero visa) ut videtur cymoso-paniculata; lobus 1 calycis in laminam magnam foliaceam 3–4.5 cm. longe petiolatam expansus, lamina late ovata vel rotundato-ovata ca. 8 cm. longa et 5–6 cm. lata obtusa, basi abrupte contracta et ca. 7-nervia, nervis fere ad apicem protractis, supra sparse hirtella, subtus praesertim ad venas pilosa, venis prominentibus laxe reticulatis; capsula subglobosa 4 cm. longa 5 cm. lata basi et apice late rotundata bilocularis; semina horizontalia numerosa valde compressa oblongo-semiorbicularia pallida et roseo tincta, ala inclusa 2.5 cm. longa 1 cm. lata, ala parte seminifera longiore.—Ecuador: In regione tropica sicca in sylvulis prope Guayaquil, January, 1936, *Luis Mille* 884 (type in Herb. Field Mus.).

The fruit is exactly that of the genus *Sickingia*, but I do not believe that the tree belongs to that genus. Flowers probably will show that it represents an undescribed generic group, for it can not well be associated with any of the known genera in which the calyx lobes are expanded into a large, foliaceous limb.

Sickingia hadrantha Standl., sp. nov.—Arbor 10-metralis, trunco 80 cm. diam., ramulis crassis teretibus sordido-ferrugineis lenticellatis, novellis breviter pilosulis; stipulae non visae; folia majuscula breviter petiolata subcoriacea, petiolo 1–1.5 cm. longo crassiusculo glabro; lamina oblongo-obovata vel elliptico-oblonga 15–18 cm. longa et ultra 6.5–10 cm. lata subabrupte acuminata, basi anguste rotundata usque subacuta, glabra, supra in sicco fuscescens lucida, costa nervisque prominentibus, subtus fere concolor brunnescens, costa elevata, nervis lateralibus utroque latere ca. 12 gracilibus prominentibus arcuatis angulo lato adscendentibus, venulis prominentibus vel prominulis laxe reticulatis; inflorescentia cymoso-paniculata corymbiformis sessilis ca. 10 cm. longa atque 10–12 cm. lata densissime multiflora basi trichotoma, ramis crassis adscendentibus vel suberectis repetite trichotomis dense breviter brunneo-pilosulis, bracteis interdum foliaceis, saepius linearibus et usque 8 mm. longis, floribus dense aggregatis sessilibus; hypanthium glabrum turbinatum 1.5–2 mm. longum; calyx 1.5 mm. longus profunde dentatus, dentibus triangularibus acutis vel acuminatis erectis glabris; corolla alba campanulata vel fere urceolata 4 mm. longa

extus glabra, lobis brevissimis obtusis latioribus quam longis, fauce dense albo-barbata, pilis extrusis; antherae longiexsertae vix ultra 1 mm. longae; stylus breviter exsertus.—Peru: On river bank, Gamitanacocha, Río Mazán, Dept. Loreto, alt. 100–125 meters, March 5, 1935, *José M. Schunke* 347 (type in Herb. Field Mus.).

A related species is *Sickingia tinctoria* (HBK.) Schum., of the same region, which differs in its larger corolla and anthers.

Syringantha loranthoides Standl. Field Mus. Bot. 8: 153. 1930.—The genus *Syringantha*, a well marked one, related to *Exostema*, was based upon four collections in the Leningrad herbarium, all obtained in Mexico by Karwinsky. There has come to hand a recent collection, the only one, so far as known, made during the past century: Mexico: Tamazunchale, San Luis Potosí, September, 1938, *L. A. Kenoyer* A266. The specimens at first glance remind one somewhat of *Hamelia*, because of the form of the inflorescence and of the buds. In the recent collection the leaves are somewhat larger than originally described, being as much as 8 cm. long and 22 mm. wide.

Tobagoa maleolens Urban, Repert. Sp. Nov. 14: 343. 1916.—This monotypic genus was described from Tobago, and is known to occur in the region of Caracas, Venezuela, where it appears to be rather frequent. A single recent collection establishes the fact that its range extends to Central America: North rim of El Valle de Antón, Prov. Coclé, Panama, at 600–1,000 meters, February, 1939, *P. H. Allen* 1666; an herb 1 meter high, the flowers white.

VALERIANACEAE

Valeriana cucurbitifolia Standl., sp. nov.—Herba ut videtur alta atque erecta, caulibus crassissimis in sicco usque 12 mm. crassis fistulosis ad nodos pilosulis, aliter glabris vel glabratis, internodiis valde elongatis; folia membranacea simplicia, caulina atque basalia conformia, longipetiolata, petiolis infimis usque 15 cm. longis sparsissime pilosis vel fere omnino glabris, foliorum caulinorum brevioribus ca. 4 cm. longis; lamina vulgo reniformi-orbicularis interdum paullo angulata usque 18 cm. longa atque aequilata acuta, basi profunde cordata, sinu aperto, ima basi abrupte contracta et breviter cuneato-decurrens, in margine grosse undulato-dentata, dentibus brevibus late triangularibus obtusis, utroque latere tantum ad nervos venasque sparse breviter pilosa, interdum fere omnino glabra, subtus vix pallidior; inflorescentia magna longipedunculata

ca. 16 cm. alta et aequilata laxe multiflora, repetite dichotoma cymiformis, bracteis linearibus, infimis 1.5 cm. longis, superioribus multo brevioribus, ultimis numerosissimis atque imbricatis viridibus attenuatis, floribus cymosis vel breviter spicatis sessilibus; fructus (juvenilis tantum visus) ca. 2.5 mm. longus in sectione lanceolatus basi rotundatus, sensim apicem versus attenuatus, nervoso-angulatus, pappi setis longis albidis plumosis.—Mexico: Tablas, Siltepec, Chiapas, August 8, 1937, *E. Matuda* 1709 (type in Herb. Field Mus.; duplicate in Herb. Univ. Michigan).

Well marked by the large leaves, which in general appearance are remarkably like those of some species of *Cucurbita.*

Valeriana LeSueurii Standl., sp. nov.—Herba perennis ca. 75 cm. alta, caulibus singulis infra inflorescentiam simplicibus crassiusculis teretibus ca. 3.5 mm. crassis, internodiis valde elongatis, infimis densissime pilis brevibus albidis patentibus pilosulis, superioribus fere glabris; folia basalia longipetiolata membranacea, petiolo crasso 1.5 cm. longo minute pilosulo, lamina oblongo-obovata ca. 3.5 cm. longa atque 1.5 cm. lata apice rotundata, basi cuneato-attenuata, integra, supra dense minutissime albido-pilosula, subtus aequaliter vel sparsius pilosula concolore; folia caulina sessilia opposita vel verticillata profunde pinnato-partita ca. 3 cm. longa, segmentis linearibus vel fere teretibus rigidiusculis; inflorescentia valde elongata laxissima anguste racemoso-paniculata, ramis vulgo quaternis brevibus flexuosis sursum incurvis gracillimis glabris vel puberulis, floribus sessilibus dense in cymulas paucifloras capituliformes aggregatis, bracteis viridibus lanceolatis vel ovatis, inferioribus 3.5 mm. tantum longis, supremis parvis acutis vel acuminatis; corolla alba extus glabra 1.5 mm. tantum longa, lobis latis brevissimis apice rotundatis, antheris breviter exsertis.—Mexico: Mesa Correo, Chihuahua, July 2, 1936, *Harde LeSueur* 1077 (type in Herb. Field Mus.).

Well marked among the species of northern Mexico by the short, entire basal leaves, rounded at the apex. Possibly conspecific is *Gentry* 2739 from Memelichi, Río Mayo, Chihuahua, at 2,250 meters. This collection is in mature fruit. Since it has no basal leaves and the form of the inflorescence is somewhat different from the LeSueur type, it may be that two distinct species are involved.

Valeriana Skutchii Standl., sp. nov.—Herba perennis erecta plus minusve caespitosa, caulibus inferne simplicibus crassiusculis 3–5 mm. crassis interdum fistulosis ubique sparse pilis longiusculis patentibus pilosis, internodiis valde elongatis; folia basalia longi-

petiolata subcarnosa, petiolo 4–6 cm. longo basi dilatato fere glabro; lamina lineari-oblanceolata 3–11 cm. longa usque 1 cm. lata obtusissima vel obtusa, basin versus longe sensim attenuata, integra vel obscure undulato-dentata glabra, tantum in incisuris marginis breviter albo-barbata; inflorescentia usque 17 cm. longa atque fere aequilata laxa multiflora trichotoma vel superne repetite dichotoma, bracteis linearibus ca. 1 cm. longis, superioribus viridibus similibus sed multo brevioribus, floribus parvis sessilibus in cymulas parvas paucifloras vulgo pedicellatas dispositis; corolla alba extus glabra, lobis oblongis obtusis patentibus ca. 2 mm. longis, tubo sursum dilatato aequilongo; filamenta longe exserta; fructus lanceolato-ovoideus ca. 2.5 mm. longus basi rotundatus dense breviter patenti-pilosus vel interdum glaber.—Guatemala: Open pine woods, Sierra de los Cuchumatanes, Dept. Huehuetenango, alt. 3,330 meters, September 15, 1934, *Alexander F. Skutch* 1240 (type in Herb. Field Mus.). Volcán de Santa María, in open, sunny stand of pine, Dept. Quezaltenango, alt. 3,550 meters, July, 1934, *Skutch* 853.—Mexico: Chiapas, *Ghiesbreght* 801.

Noteworthy for the numerous narrow, almost entire basal leaves. Both pilose and glabrous achenes exist on different inflorescences (detached) of the type sheet, and I judge that the variation in fruit pubescence must be an individual variation. The middle cauline leaves are lance-linear, dilated toward the base, and as much as 6.5 cm. long.

COMPOSITAE

Aster Gentryi Standl., sp. nov.—Subgenus *Machaeranthera*. Herba biennis(?) erecta 40 cm. alta vel ultra ut videtur inferne simplex, caule superne pauciramoso crassiusculo viridi striato ubique sat dense, superne densissime, glanduloso-villoso internodiis foliis brevioribus; folia caulina numerosa sessilia oblonga vel lanceolato-oblonga 2–4 cm. longa atque 8–10 mm. lata vel ultra, obtusa vel acuta, basi rotundata vel subcordata et plus minusve amplexicaulia integra vel subintegra, ubique breviter glanduloso-pilosula vel glanduloso-scabra, interdum plus minusve glabrata; folia inflorescentiae multo reducta et fere bracteiformia plerumque 8–12 mm. longa ovata amplexicaulia; capitula pauca ad apices ramorum singula vel aggregata breviter vel longe pedunculata, disco fere 1.5 cm. lato; phyllaria subaequalia viridia 5–6 mm. longa linearia subulato-attenuata dense glanduloso-pilosula; radii numerosissimi lineares atque paullo ultra 1 cm. longi; achaenia juvenilia hispidula, pappi setis albidis 4 mm. longis; corolla 4–5 mm. longa.—Mexico:

Memelichi, Río Mayo, Chihuahua, meadow margin, among pines, alt. 2,250 meters, September 15, 1936, *Howard Scott Gentry* 2728 (type in Herb. Field Mus.).

The rays are described as purple, the disk as yellow.

Brickellia Hinckleyi Standl., sp. nov.—Herbacea 60 cm. alta et ultra, caulibus erectis rigidis ut videtur inferne simplicibus, superne paullo ramosis teretibus viridibus sat dense pilis patentibus crassiusculis albidis glanduloso-villosis, internodiis brevibus; folia omnia nisi infima alterna parva rigido-herbacea sessilia vel brevissime petiolata, petiolo vix ultra 2 mm. longo; lamina lanceolata vel lanceolato-ovata 2.5–4 cm. longa 8–14 mm. lata, foliis supremis paullo reductis, longe angusteque attenuato-acuminata, basi late breviter cuneata, serrata vel subintegra, dentibus paucis, supra glanduloso-scabra, subtus densius glanduloso-hirtella, trinervia; capitula magna pauca ramos axillares paucifoliatos terminantes vel apice caulis pauca et corymbosa, campanulata pappo incluso 15 mm. longa atque ca. 1 cm. lata, pedunculis gracilibus erectis glanduloso-villosis; phyllaria laxe imbricata viridia multistriata, interiora lanceolato-linearia longe sensim attenuata, exteriora multo breviora oblongo-ovata caudato-cuspidata, omnia villoso-ciliata atque plus minusve glandulosa; flores ca. 24; achaenia 4.5 mm. longa dense sericea.—Texas: Madera Canyon, near Livermore, Davis Mountains, August 27, 1939, *L. C. Hinckley* 1225 (type in Herb. Field Mus.).

In a region in which so much collecting has been done as in the Davis Mountains, it is decidedly surprising to find a new plant so distinct as this one appears to be. It may well be that specimens of it are preserved in other herbaria, but none were available to Dr. Robinson when he published his monograph of the genus. *Brickellia Hinckleyi* is obviously related to *B. Wislizeni* Gray, of Chihuahua and Durango. In the Mexican plant, however, nearly all the leaves are opposite, rounded or cordate at the base, and varying from narrowly rounded to merely acute at the apex. The heads of the Texas plant, although similar in size to those of *B. Wislizeni*, have only half as many achenes.

Cacalia pratensis Standl., sp. nov.—Herba perennis erecta 60 cm. alta vel ultra rigida, caulibus singulis(?) crassiusculis striatis glabris vel in statu juvenili plus minusve adpresso-pilosis, internodiis bene elongatis; folia basalia longipetiolata crassiuscula et subrigida, petiolo 11–22 cm. longo prope basin paullo dilatato fere omnino glabro; lamina latissime ovato-cordata vel reniformi-cordata 5–11

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cm. longa 5.5–9.5 cm. lata, apice obtusissima vel subrotundata, basi profunde (1.5–3.5 cm.) cordata, sinu aperto lato, lobis basalibus subrotundatis, toto margine undulato-dentato, dentibus brevibus latis obtusissimis, supra sparse villosa vel in statu juvenili forsan laxe tomentosa, subtus ad venas nervosque sparsissime breviter tomentulosa vel fere glabra penninervia; folia caulina multo minora ovata, petiolo latissime alato atque vaginante, foliis supremis ad vaginas reductis 2–2.5 cm. tantum longis; inflorescentia ad capitulum singulum multicapitatum 2.5–3 cm. diam. pedunculatum reducta, bracteis extimis linearibus foliaceis usque 1.5 cm. longis; involucrum 8 mm. altum, phyllariis ca. 8 glabris oblongo-ovatis acutiusculis prope apicem albo-ciliatis arcte imbricatis; corolla glabra 6–7 mm. longa; achaenia anguste columnaria nigrescentia 4 mm. longa, pappo albo fere aequilongo.—Mexico: Very wet meadow near San Juanito, Distrito de Bocoyna, Chihuahua, alt. 2,430 meters, July 26, 1937, *Forrest Shreve* 8031 (type in Herb. Field Mus.). Memlichi, Río Mayo, Chihuahua, in transition zone among pines, alt. 2,250 meters, September, 1936, *Howard Scott Gentry* 2785; aquatic, a small colony in meadow seep.

Verbesina Gentryi Standl., sp. nov.—Herba erecta inferne ut videtur simplex 50 cm. alta et ultra, caule crasso dense scabro vel hirtello fere ad capitula alato, alis viridibus integris usque 4 mm. latis; folia opposita majuscula sessilia et longe basi in alas decurrentia, ovata vel rhombico-ovata, caulina usque 14 cm. longa et 8 cm. lata acuta vel acuminata dentata vel grosse dentata, crassa, utrinque scaberrima; capitula numerosa corymbosa, inflorescentia usque 30 cm. longa, pedunculis ultimis graciusculis exalatis brevibus dense viscido-hirtellis et scabris, capitulis campanulatis radiatis 5–6 mm. altis 7–10 mm. latis luteis; phyllaria vix ad 3 mm. longa inaequalia oblonga acuta hispidula; radii pauci lineares 5–7 mm. longi lutei; paleae disci latae apice apiculato-rotundatae glabrae.—Mexico: Guasaremos, Río Mayo, Chihuahua, in valley margins, August 23, 1936, *Howard Scott Gentry* 2416 (type in Herb. Field Mus.).

The heads are in young flower, and it is impossible to determine the nature of the achenes. The collector describes the plant as a tall, slender herb with orange heads. Its relationship is with *Verbesina pterocaula* DC., of southern Mexico, which differs conspicuously in its larger heads as well as in several other respects.

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